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ABSTRACT

This compilation of 14 papers presented at a curriculum materials development workshop for vocational educators includes the following topics: "Curriculum Concepts" by William D. Woolf, "Systems Approaches to Curriculum Development in Vocational Education" by James E. Wall, "Instructional Materials Laboratory: University of Missouri-Columbia" by Amon Herd, "Administrative Commitment Facilitates Curriculum Development for Vocational Education" by Arch Alexander, "Just About the Time I Think I Can Make Ends Meet--Somebody Moves the Ends!" by Ann Benson, "North Dakota Vocational Education Curriculum Development Plan" by Donald Eshelby, "Colorado Efforts for Vocational Education Curriculum Materials Development" by Wiley B. Lewis, "Standard Characteristics of Vocational Education" by Darrell L. Parks, "Workshop Scenes" by Leonard Nasman, "Implications of Copyright Laws for Education" by Edwin L. Spangler, Jr., "Systems Approach to Curriculum Development--Role of Institutions and Individuals" by Milton E. Larson, "Roles in Curriculum Materials Development--A Perception" by Joe Nichols, "Perceived Roles in Curriculum Materials Development" by Harold Wallace, and "National Overview--Curriculum Materials Development" by William Berndt. Names of workshop participants and the agenda are appended. (RG)

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Interim Report

CSU Project Number 31-1974-0265

PROMOTING EDUCATOR CONTRIBUTIONS TO COLORADO'S VOCATIONAL EDUCATION CURRICULUM MATERIALS DEVELOPMENT EFFORTS: SELECTED PAPERS AND SYNOPSES OF REMARKS PRESENTED AT THE CURRICULUM MATERIALS DEVELOPMENT WORKSHOP

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U.S. DEPARTMENT OF HEALTH,
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PREFACE

Papers included in this publication represent a compilation of the information presented during the Curriculum Materials Development Workshop held on the Colorado State University campus November 17-21, 1975. Details concerning the Workshop and its conduct are presented in an interim report, Promoting Educator Contributions To Colorado's Vocational Education Curriculum Materials Development Effort.

The Workshop agenda is presented in Appendix A of this publication. Facilitators who spoke to or worked with the Workshop participants are identified in Appendix B.

A review of the materials herein will reveal that not all Workshop activities are described. Several of the presentations were not suited for the narrative type of description used in this report. Among these were sessions conducted by Mr. Ron Latimer, Senator Hank Brown, and by Dr. Darrell Parks and Mr. Tom Hindes.

Gratitude is expressed to each of the facilitators and the participants who were involved in the Workshop. Thanks are extended to Mrs. Pat Hemby for her assistance in transcribing many of the audiotapes; to Ms. Linda Dunham for helping with the transcriptions and for typing this report; and to Ms. Amelia Ives for preparing many of the required illustrations and charts.

TABLE OF CONTENTS

PREFACE iii

CURRICULUM CONCEPTS 1
William D. Woolf

SYSTEMS APPROACHES TO CURRICULUM DEVELOPMENT IN VOCATIONAL EDUCATION 13
James E. Wall

INSTRUCTIONAL MATERIALS LABORATORY: UNIVERSITY OF MISSOURI-COLUMBIA 35
Amon Herd

ADMINISTRATIVE COMMITMENT FACILITATES CURRICULUM DEVELOPMENT FOR VOCATIONAL EDUCATION 45
Arch Alexander

"JUST ABOUT THE TIME I THINK I CAN MAKE ENDS MEET--SOMEBODY MOVES THE ENDS!" 61
Ann Benson

NORTH DAKOTA VOCATIONAL EDUCATION CURRICULUM DEVELOPMENT PLAN 67
Donald Eshelby

COLORADO EFFORTS FOR VOCATIONAL EDUCATION CURRICULUM MATERIALS DEVELOPMENT 79
Wiley B. Lewis

STANDARD CHARACTERISTICS OF VOCATIONAL EDUCATION 89
Darrell L. Parks

WORKSHOP SCENES 96
Leonard Nasman

IMPLICATIONS OF COPYRIGHT LAWS FOR EDUCATION 99
Edwin L. Spangler, Jr.

SYSTEMS APPROACH TO CURRICULUM DEVELOPMENT--ROLE OF INSTITUTIONS AND INDIVIDUALS 131
Milton E. Larson

ROLES IN CURRICULUM MATERIALS DEVELOPMENT--A PERCEPTION 149
Joe Nichols

PERCEIVED ROLES IN CURRICULUM MATERIALS DEVELOPMENT 157
Harold Wallace

NATIONAL OVERVIEW--CURRICULUM MATERIALS DEVELOPMENT 165
William Berndt

APPENDICES

A. Agenda 175

B. List of Facilitators 183

CURRICULUM CONCEPTS

William D. Woolf

I appreciate being able to meet with you for a few minutes this afternoon. I also appreciated the remarks made by Dr. Anderson, Head of the Department of Vocational Education, Colorado State University. CSU personnel certainly have been leaders in curriculum and many other efforts in vocational education in this State. We were delighted to get Wiley Lewis aboard. We also have a counterpart, Bob Perry, designated in our office to try to give some direction to this beast we call "curriculum."

I don't know what your role in curriculum is, but whether you are a classroom teacher or an administrator, if you have had as much frustration over the years as we have had, that should be enough motivation for you to really make this a successful workshop. I don't know of any easy solutions. I would like to take the position Dr. Anderson took, and that is to say, "The agency doesn't have all the answers." All we are attempting to do at the present is to find the problems, and hopefully you can help supply some answers.

In the past, I have been personally involved with some important curriculum projects. I was convinced when I was involved in those projects that they were the very best projects that existed, and I was positive they were going to help settle and solve some of the major curriculum problems in the nation. When I was a high school teacher, for example, I went to my school board and said that I had an innovative program I wanted to have funded. I informed them that released time was necessary, and that I wanted to teach the content on a team teaching basis. It was funded and materials were produced. I have packed those materials with me ever since that time, thinking that they were the very best, and that at some juncture they would be implemented somewhere other than the original school district. Yet, when I objectively looked at curriculum from a broader perspective to evaluate these materials, somehow my hopes faded. I still carry one copy of the materials with me, but I know that they will not revolutionize and solve the problems in curriculum.

In Utah we were heavily involved in a curriculum project which took hours and hours of my time. Since I believe our efforts were more realistic there, I began to more fully understand the magnitude of some of the problems that curriculum experts experienced. Still, I thought I could make a sizable impact and that we were going to really have something important. Well, I have more than two file drawers full of materials from that project, and in going through them recently, I have determined that all of it should go, except one or two pieces. I guess that is the way curriculum is. It is just a "hard nut to crack." It is a beast of a problem.

Now, at the state level, curriculum has been a tremendous source of frustration. One way to look at the problem is to say, "Let's not get involved at all; let's leave it to the others who are working in it." I guess that would be an easy out. Another option would be to say that we are going to centralize everything, and we are going to have control of everything that goes on, that it will be under the sponsorship and direction of the State Board. Well, I think somewhere between those two poles, there has to be an answer to this whole thing.

Part of the problem, as Dr. Anderson mentioned, is "who." I think as a classroom teacher, I definitely felt I ought to be involved in curriculum materials development for my classroom. I suppose that I even had aspirations beyond my classroom to perhaps an involvement that would influence what my peers were doing. In fact, as I mentioned already to some of you, in my specialty of distributive education and bookkeeping and accounting, I did have this type of opportunity. In bookkeeping and accounting, as well as in the distributive field, a district committee met and determined curriculum content. That was the only committee on which I have served that was pretty unanimous. There wasn't one dissenting vote about the direction we should go. When we presented these great and elaborate plans to the administration and the board, they were all shot to heck. Despite our setback, I basically believe that it is important to have classroom teachers involved in the curriculum process.

When you go beyond the classroom level to the district level, you have to understand that there are many schools involved. It is ineffective and very inefficient to have business and office teachers in one school developing curriculum materials and business and office teachers in another school developing competitive curriculum materials. Teachers and districts can't afford all that time, when in fact, if there were some coordination, we could eliminate some duplication of efforts.

When you look at it from a state level, you see the same thing happening. I could show you curriculum projects where we have committed funds, in which we have three different groups developing, overlapping, and competing to develop curriculum materials. That doesn't make a lot of sense. Then when you look at this problem from the national level, you see Colorado, Oklahoma, and Texas, and most other states across this nation attempting the same kind of task and fumbling around trying to solve the same problems. The whole process leaves much to be desired.

Because of these difficulties, there is always the motivation at the federal level to attempt some coordination. I must admit that I feel that some of the most effective curriculum projects have been national projects. Look at what the impact of the new math has been. If you were going to think of how to put a new math program together and get every math teacher in this nation, kindergarten through university level, involved in a new math concept, how would you do it? Well, I think whether or not you agree with the new math concept, the curriculum development implementation process is important. When you look at the new biology, which has been rather successful, I think you have to look at the scenario that goes with it. How were they able to mount such a massive, comprehensive program to get teachers and administrators at all levels across the nation and states to accept the product? When you begin looking at the tremendous amount of resources available and their centralized approach, you begin to understand why those curriculum experts were so effective.

It seems to me that to eliminate the federal or the national people is to invite some real problems in efficiency and is to encourage problems of duplication. If we say that we don't want any federal involvement, we are eliminating important resources needed to accomplish the task. Only at the federal level have we been able to really garner the kinds of resources for any given project that relates to the needs of the task.

In Colorado, for example, could we generate the quantity of vocational dollars that are needed for vocational programs and could we have done it in a timely manner? Well, I have real doubts about our ability at the state level and more particularly about your ability at the local level, to assemble the kinds of resources that are needed for material development. For this kind of a project, we need central planning. The federal people need to be involved. At the other end of the spectrum, the local teacher needs to be involved. What kind of structure this creates to get curriculum accomplished is really difficult to determine.

Part of the problem rests not only in the "who" question, but also in the definition of curriculum. Some of the definitions that are promoted across the nation are not particularly helpful. A good example of a nonworkable definition of curriculum is "anything that goes on in the classroom." We have all heard this definition spouted many, many, times. Well, what kind of a curriculum task does that leave us? If you are going to try to develop materials to encompass everything that goes on in the classroom, you will never accomplish the task. When you include in the scope of curriculum work all districts, all states, and the total nation, there isn't anybody who can develop materials to fit those parameters. We have to start to be more realistic. We are going to have to give up some of our desires for the whole beautiful thing that starts from the beginning of the classroom to the end. In my opinion, we are not going to have the resources ever, or at least in the foreseeable future, to accomplish all we want to do in curriculum materials development.

Part of the problem rests not only with the "who" and definition problem, but also involves the problem of philosophy. Does the curriculum include the teaching of values in vocational education? Does it include the topic of work ethics? I do not know philosophically if we are really ready to launch a coordinated whole until some of the basic values questions can be answered.

Part of the curriculum problem also rests with the scope problem. The problem is not only "what" but "how much." When you look at the trade and industrial specialty and all the multiple programs it encompasses, and then look at the limited offering of business and office, you see a different approach to the "how much" question. How far are we going to go? Colorado is involved in an interstate consortium that I am sure you are familiar with. This project is designed to create learning materials by program areas. We calculate to produce three or four units per year, and if we were to total the units needed, it would be 150 years before we would have a complete set of documents. Then, of course, we would have to start all over again to have something up to date. This approach has some difficulties, since it doesn't adequately deal with the "how much" question. Scope is tremendously important.

Another dimension to the problem, of course, is the expense. Most curriculum projects with which we have been involved have been very expensive efforts. What budget does it take to employ writers, content specialists, photographers, and editors. You start calculating the cost of staff and products, and then plot that cost against what you are going to get in terms of outcome, and you quickly see that material development is an expensive effort.

Another problem that is so prevalent in curriculum is the sharing of all the beautiful materials that have been created in each state. The question is what is available in each state, in the western states, and in the nation. Even if the task were manageable, who would volunteer to sort through all these materials to see what is usable and what is not usable? It has to be a terrible problem, and only adds to our frustrations. The temptation is to junk all that we have and start brand new. Then in a few years, the same decision is made to start again. I don't know how many times we have started again in this nation, but our procedures encourage terrible inefficiencies.

I think one of the real problems is failing to agree on procedure or process. We get a person who says he or she can teach public relations, and so that person says, "Let's prepare a unit." Another says, "Attitude is the important thing," so we build a unit on that. Another says, "I believe business math is what we need more of." On it goes! We have all of these nice little units built that can be taught, or are supported by how many people? One, maybe two, or perhaps a few. Now, I'm exaggerating, but I would like to communicate a problem. We have not agreed on the process. For example, do you agree that before any materials are designed and published, they should be validated in some way? How do we validate materials? Do we bring in a jury of experts and ask, "What do you want us to teach?" Do we perform a time and motion study and ask what the employee is doing on the job? Of course, all of these ideas have been used. Do we agree? If we don't agree before we begin, how are we going to agree on the end product? Our nondisciplined actions are self-defeating.

Additionally, we are all mixed up about what the final product ought to look like. Not only do we not agree on what's valid or what's to go into it, but should all the materials be of a similar format? Are we going to have every one of the final products so that it's a learning material rather than a teaching material? Do you believe that if we are going to have learning materials, that each package must have integrated visual aids? Is that the kind of final product we ought to produce? One of these integrated audiovisual/self-instructional units which was recently produced in one of our projects included a cost close to $10,000. If every school were to reproduce the unit and use it in the classroom, it would cost that school $10,000. Now, let me ask you teachers, how many of you, no matter how beautifully this unit is designed and how great it is, would buy a $10,000 unit? Remember, you have to buy 150 other units, and if they are all $10,000, you know what the problems are.

You see, what I'm trying to say is that we try this and we try that, but we don't know where we are really going. I don't deny that a $10,000 unit is the best unit ever produced and that it is probably great, but it is not practical. I think we've wasted our dollars if only one teacher can use it. It seems to me that we have to come to grips with our process or our procedure of validating and agreeing on an ultimate format.

I guess I'm beginning to feel that we ought to treat this problem just as we would a management information system. Do you know the first question asked before starting a management information system? Not, "How can we collect all this data?" nor "How much would be nice?" but rather "What do we absolutely have to have? What are the very minimum kinds of things that we have to have to be able to be successful?" As I begin to think about the curriculum problem and think it through, this is one of the questions we've failed to ask ourselves. Maybe, all we need is a good task analysis, or maybe all we need is a quality list of competencies. These basics would then let the teachers carry it from there, in whatever method or whatever format they want to use. Maybe it's something more than that, I don't really know. Maybe these basic elements are all we can afford.

I'm a believer in the simulation technique. I think I can prepare simulations and teach simulations and be successful. Does that mean to say that I can export these simulations to you or that I should? If I do export them, can you or will you use them? Does this mean that the state or federal government should pay for their development?

I guess I feel that it is easy to state who is going to get involved in this problem and even what an acceptable definition will be. We can determine our philosophy and the scope of the problem. It is not difficult to determine the limitation of our resources. Probably the toughest questions are implementation, how are we going to get it out to people, and what will be its form. We have got to agree to a procedure in preparation, agree on what the end product is going to look like, and each of these decisions has to be realistic enough so that we have some sense and hope of achieving our goals. We have to have some system of evaluation before it is pushed on everybody, so that we have the assurance it is going to work. I guess I believe that we need a plan or a system. We need the system to say here is where we are going and this is how long it is going to take, and these are the resources needed. This plan will need input from lots of people, including experts in the area, teachers and administrators. If we start to carve this elephant up into pieces, then we can eat it chunk by chunk. I believe the whole is greater than the parts. You could take this watch apart and put it in a paper bag. It wouldn't do you any good at all. Only when you take this watch and put it together in a whole and it really runs does it perform a service. I think that is an advantage to a systems approach. It has a chance of saying, "This is good" and "This is not so good." "We need this" and "We don't need that." We must have a plan where we begin to build some of the parts and the parts then become a picture that has some aesthetics. I do believe that we need to identify these parts, get the parts together, and then put together the whole.

I was delighted to see that you were going to spend some time toward the systems approach to building curriculum in this workshop. I think anything else would be putting money down a rat hole which we will never be able to retrieve.

I basically believe a systems approach has got to be used in the state agency. I am attempting to put a brake on spending funds for curriculum until we can, at some juncture, know where we are going. That does not say that individuals don't know where they are or where they want to be. You may know where you are and where you want to be. I congratulate you on that, and I am being very sincere. But in terms of the total system, I am very hesitant to put any dollars in curriculum until we can decide where we are going. That is why we are putting extra dollars into management, so we can get a plan together. Once we get the plan together, I hope we have some dollars to put into curriculum.

Thanks for inviting me to say a few words to this important conference group.

SYSTEMS APPROACHES TO CURRICULUM DEVELOPMENT IN VOCATIONAL EDUCATION

James E. Wall

INTRODUCTION

This paper is intended to serve as an aid to curriculum developers, teacher educators, and instructors who work in planning, designing, implementing, and evaluating vocational programs and their curriculums. The material contained herein is presented in the hope that it will help in formulating an orderly approach to curriculum in a statewide system of vocational education.

Any statewide system of vocational education must have a mission, a purpose or purposes. Without purpose there can be no organized process. Purpose(s) usually is expressed as goals or guiding principles of the program. The underlying purpose of all education, formal or informal, is to bring about change in students; (1) by training them to exercise technical skills in a world of increasingly specialized work; and/or (2) by preparing them to apply complex cognitive processes to an infinite variety of task performances.

Before we can design curriculum to bring about change in students, we should recognize a few basic things about those students. First, students are animals, Homo sapiens, or recent man/woman. Related to the adjective sapiens is the noun sapience, meaning "wisdom," or "sageness," or "reasoning" or "wise," or "thinking," or "discerning." So we have in vocational programs students who are, in essence, thinking men and women. There may be a few Homo insapiens, or unthinking men or women among our students.

Second, students possess their own peculiar, individualized sets of experiences which they have been accumulating since birth. Some of these experiences may have been good, some bad; some they remember and recall; some they have forgotten. Some of these experiences have caused the students to acquire (and sometimes even permanently retain) knowledge, skills, and abilities to process information, and to articulate all of these in solving problems and making decisions. All of the students' accumulated experiences manifest themselves in their interests, attitudes, motivations, values, opinions, judgments, and behaviors. Each of these varies over time with respect to intensity and magnitude. Suffice it to say that when students reach the vocational program, they are already very complex personalities.

Third, students are searching, probably for many things. They have goals, dim and distorted though some of them may be. Their interests, values, and behavior vastly influence the patterns of searching for goals. Their goals too frequently are ill-defined. They may not understand that many intermediate goals must be achieved before an ultimate goal can be accomplished. One of their goals may be getting the high school diploma, a technical education certificate, or the baccalaureate degree; their intermediate goal, or goals, is to successfully complete each component or phase in the curriculum leading to the ultimate goal. Hence, each phase they finish should contain a set of behavioral or performance objectives, so that they clearly understand exactly what is required of them at the outset of each phase. These objectives then, properly stated, delineate in sharp detail exactly what the content for each phase or component will be. They become the blueprint for the entire course or program.

SYSTEM DEFINED

But there are other considerations before an instructor gets to the step of establishing performance objectives for the curriculum. One consideration is that of a system for determining content. Establishing objectives, although critical, is merely one aspect of the system.

Before embarking on the aspects of the system, let us consider the word system itself. The term "system" needs to be operationally defined in order to be fully appreciated in a curriculum context. In the dictionary, system is defined as an assemblage of objects united by some form of regular interaction or interdependence; an organic or organized whole; as, the solar system; or a new telegraph system.

This definition suggests that there are differences in kinds of systems. The solar system is a natural system; a telegraph system is designed by man. There also are hybrid systems which are combinations of natural and non-natural (man-made) systems. Examples of hybrid systems are hydro-electric plants, modern dairies, beef cattle feedlots, commercial farms, department stores, factories, etc.

Our system of vocational education is largely man-made, designed to serve people. The State Division of Vo-Tech Education, its departments, its staff, its courses, its related institutions of higher education, etc., are system components. Before we can apply systems concepts to curriculum, we first must identify the purpose and performance expectations of the system, so that we can then develop all the parts that make up the system as a whole. It is the system as a whole--not the parts separately--that must be planned, designed, developed, installed, and managed. What is really significant is not how the individual components function separately, but the way they interact and are integrated into the system for the purpose of achieving the goal(s) of the system.

For our purposes then, systems can be defined as deliberately designed synthetic organisms, comprised of interrelated and interacting components which are employed to function in an integrated fashion to attain predetermined purposes. Therefore, the best way to define a system is to identify its specific purpose.

Systems surround us everywhere (See Figure 1). We only have to look as far as the kitchen in our homes to see a system, its purpose being meal-production. Compare this with a beef cattle feedlot enterprise with a purpose of beef-production. The purpose (of any system) is accomplished by execution of processes in which components of the system (meal-production, beef-production) engage in order to produce a predetermined outcome (goal)--edible food from the kitchen, marketable beef from the feedlot. Systems purposes determine the kinds of processes in which the system has to be engaged. In the case of the kitchen (See Figure 2), these processes will include planning the meals; acquiring, storing, preserving, and preparing the food; as well as

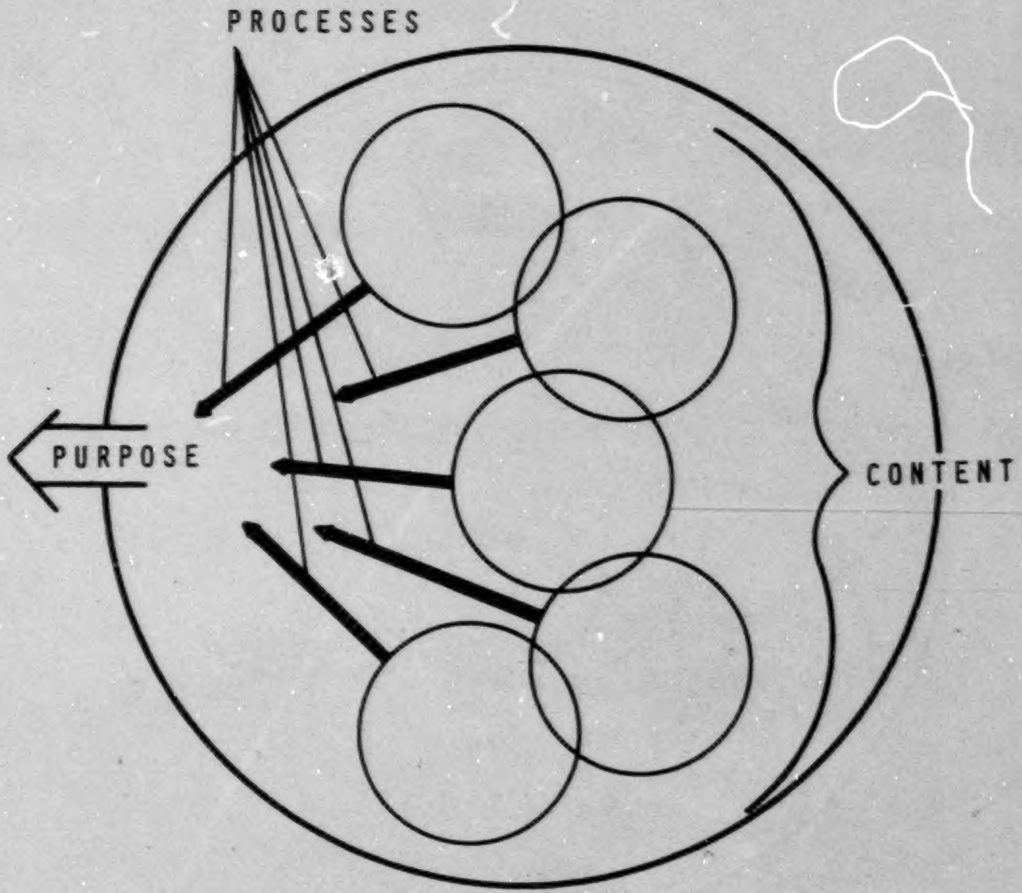
PROCESSES
PURPOSE
CONTENT

Figure 1

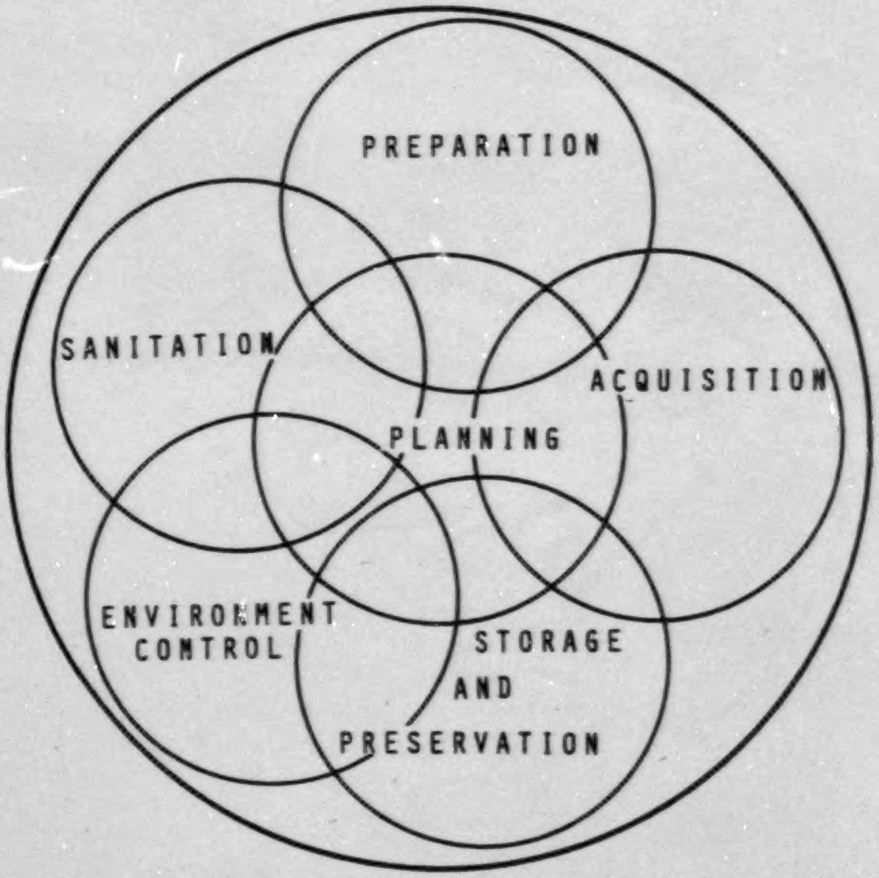
PREPARATION
SANITATION
ACQUISITION
PLANNING
ENVIRONMENT CONTROL
STORAGE AND PRESERVATION

Figure 2

controlling sanitation and environment. Processes in the feedlot include planning the feeding; acquiring, storing, preserving, and preparing the feed; as well as controlling sanitation and environment. Processes are further structured into sub-processes. For example, the fancy term environmental control denotes the assignment of space and provision for heat, light, ventilation, etc. The procedures that need to be carried out in order to achieve the purpose of the system will suggest the selection and employment of specific means of components. These components will be selected on the basis of their assessed capabilities in carrying out the processes. For example, feed acquisition for the feedlot requires the introduction of such processes as financing, selecting sources of supply which may include the manager/owner-worker team, family members, friends, creditors, feed dealers, etc. The process of delivery can be performed by components such as the manager/owner-worker team, family members, telephone, feed dealer, deliveryman, his truck, etc.

The above points out the three main aspects of systems--purpose, process, and content. Each process may be viewed as a sub-system of the total system (e.g. planning, as a process, may be viewed as a sub-system). Process itself needs some elaboration here. The term process means a cycle of events used to delineate steps and their relationship to each other and to purpose and content. Process, then, is cyclical, its steps have been found to recur; it is perpetual, continuous, dynamic. Usually the steps or phases in a process are sequential; i.e., certain things should take place before another step is begun. However, in many instances, two or more steps can be carried out simultaneously;

hence, models used to explain the process must include the necessary ingredient of flexibility.

Just as there are sub-systems within a system, there also is a suprasystem of which the system is only one among many (See Figure 3). It is usually the suprasystem from which the system receives its purpose, resources, demands, constraints, and limitations. It is from the suprasystem that the system receives its input. It is back into the suprasystem that the system sends its output (See Figure 4). The suprasystem accepts or rejects the output of the system. If a system is to maintain itself, it is essential that it ensures the adequacy of its output. In order to ensure such adequacy, the system has to provide for continuous assessment of its output and for feedback of this assessment into the system. The feedback of the output assessment emerges as a basis for system adjustment. A system must be sensitive to the changing needs and purposes of its suprasystem. The criterion by which the effectiveness or adequacy of the performance of a system can be evaluated is how closely the output of the system satisfies the purpose for which it exists.

It seems logical then to suggest that we turn to the suprasystem to determine our purpose(s). We might start by asking where are our former students; what are they doing; how well are they serving themselves and others; are they self-employed or employed by other than self? We know most are out there somewhere in the suprasystem. Other questions revolve around such things as what are the work requirements of our outputs (students); what do they do: what do they need to know; what skills, abilities, attitudes, behavior, etc. should they possess?

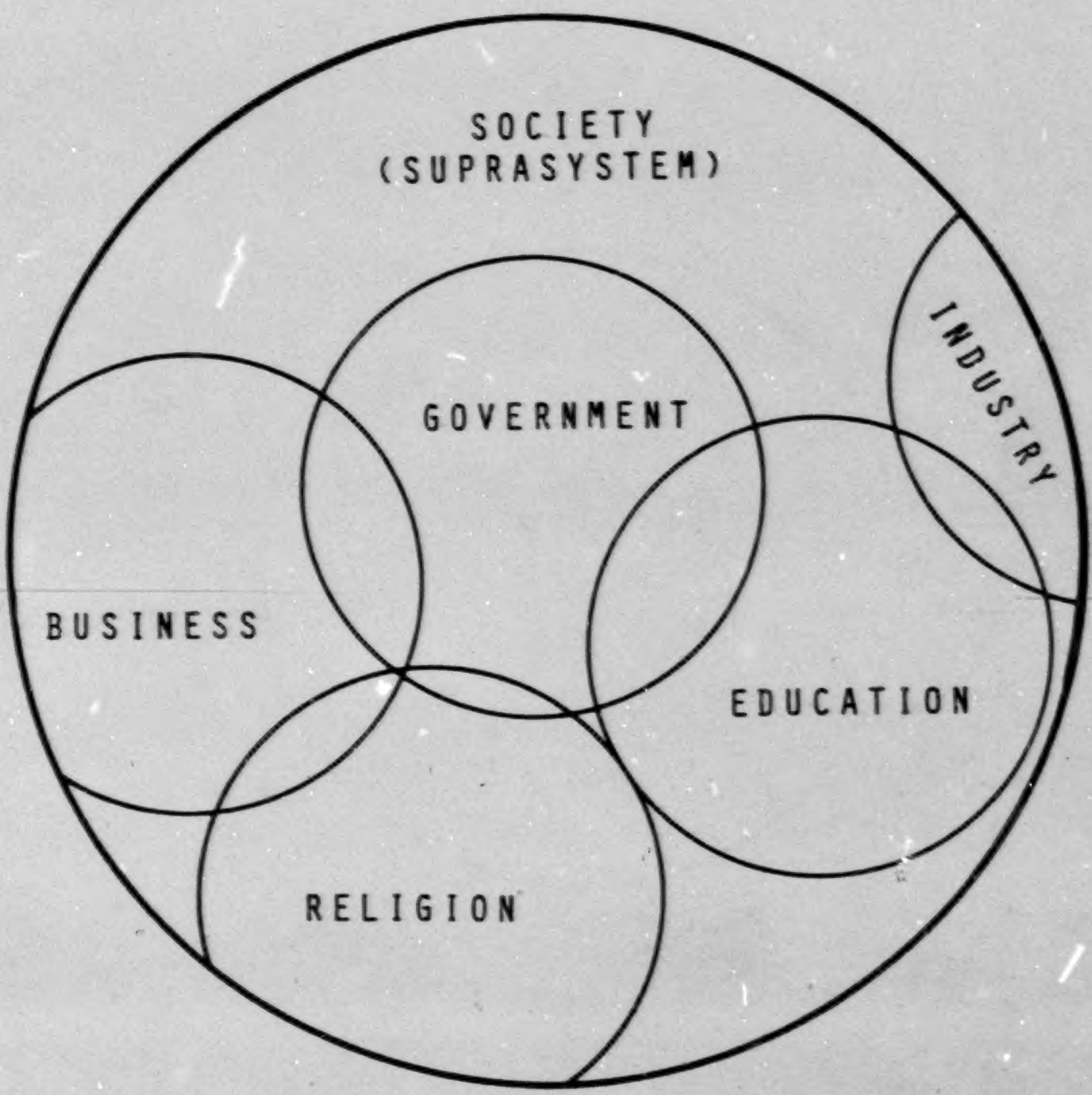
SOCIETY
(SUPRASYSTEM)
INDUSTRY
GOVERNMENT
BUSINESS
EDUCATION
RELIGION

Figure 3

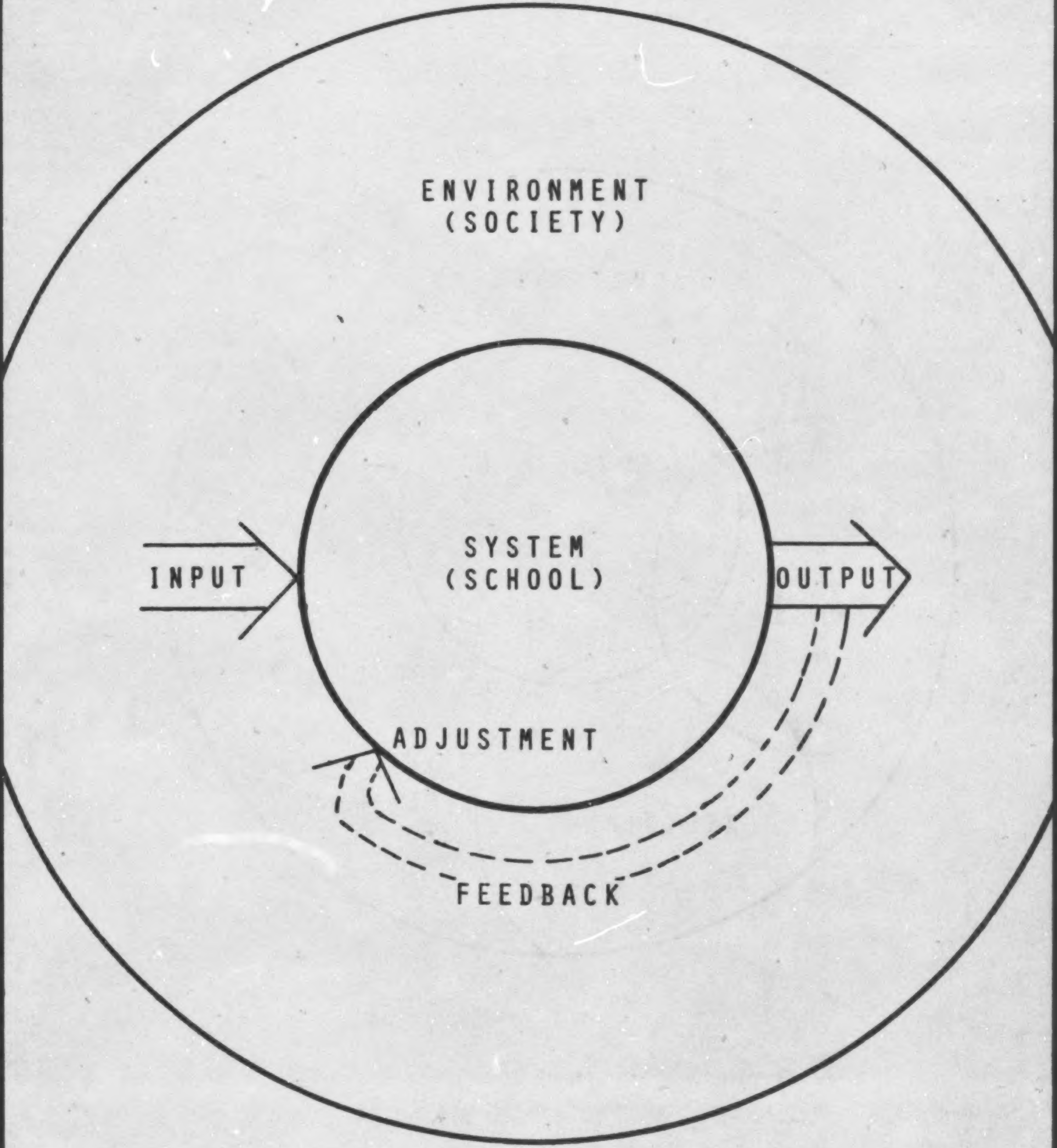
ENVIRONMENT
(SOCIETY)
INPUT
SYSTEM
(SCHOOL)
OUTPUT
ADJUSTMENT
FEEDBACK

Figure 4

Once some of these questions are answered, we can begin to make our curriculum more relevant, at least insofar as relevance is perceived by the student.

At this point we should be able to better define systems: They are assemblages of parts that are designed and built by man into organized wholes for the attainment of specific purposes. The purpose of a system is realized through processes in which interacting components of the system engage in order to produce a predetermined output. Purpose determines the process required, and the process will imply the kinds of components that will make up the system. A system receives its purpose, its input, its resources, and its constraints from its suprasystem. In order to maintain itself, a system has to produce an output which satisfies the suprasystem. Are our graduates satisfying the suprasystem?

SYSTEMS APPLIED TO CURRICULUM

To make the transition from kitchen or feedlot concepts to vocational curriculum, we need to consider where curriculum fits into the total scheme of all the required processes. If the predetermined output of vocational education is occupationally, socially, and psychologically prepared persons to reenter the suprasystem, then curriculum becomes one of the required processes; just as teacher education, administration, supervision, instruction, etc., also are required processes. For too long curriculum seems to have been "tacked on," at one time or another, to each of the other processes. And it usually was relegated to a secondary position as a result. Of the above processes, curriculum would appear to be the main one in that it results in a tangible product that finds its utility in the instructor-student arena, the "learning environment."

There are various specific aspects to be considered when applying systems concepts to curriculum. These are:

1. An insistence upon a clear definition of the purpose of the system, and upon the formulation of performance expectations stated specifically enough to enable the construction of criterion measures that will reveal evidence of the degree to which expected performance has been attained.
2. The examination of the characteristics of the input.
3. The consideration of alternatives and the identification of what has been done and how, by whom or by what, when and where, so as to ensure that the predetermined performance will be attained.
4. The implementation of the system and the testing of its output for the purposes of: (a) measuring the degree to which performance expectations are being met; and (b) assessing the efficiency of systems operations.
5. The identification and implementation of any adjustments needed in order to ensure the attainment of the purpose and to optimize system output and system economy.

In light of these five aspects, we need to consider how to transform major systems strategies into specific curriculum components. Some of these considerations are shown here:

1. Formulate specific performance objectives, clearly stating whatever the learners are expected to be able to do, know, and feel as an outcome of their learning experiences.
2. Develop tests to measure the degree to which the learners have attained the performance objectives. Measures usually are taken frequently.
3. Examine the input characteristics and capabilities of the learners.
4. Identify whatever has to be learned so that the learners will be able to perform as expected.
5. Consider alternatives from which to select learning content, learning experiences, components, and resources needed to achieve the stated objectives.
6. Install the system and collect information from the findings about performance testing and systems evaluation.
7. Regulate the system. The feedback from testing and evaluation will serve as a basis upon which the system will be changed--by design--in order to ensure ever-improving learning achievement and optimum systems economy.

All of the factors mentioned above should be kept in mind in considering in greater detail a vocational curriculum system for a given state.

THE MISSISSIPPI SDVTE-R/CU CURRICULUM DEVELOPMENT SYSTEM*

Appearing in Figure 5 is a model depicting a statewide curriculum development system, drawn up for Mississippi by Dr. James F. Shill, Director of the Research and Curriculum Unit. The information in Figure 5 shows who in what agencies are responsible for conducting the activities in the various model components. The accompanying model explanation presents the various activities to be conducted in each component. Appropriate digressions will be made throughout the explanation in order to elucidate certain sub-systems or processes.

1. Service Area Needs Assessment - Each service area supervisor, with assistance from R/CU personnel, teacher educators, and teachers, will rank curriculum needs or priorities in their respective service areas. The following will be used as input into the needs assessment: student characteristics, occupational patterns and trends, employment data, industrialization trends, etc.
2. Section Needs Assessment - R/CU personnel will examine the priorities to determine:
   - (a) If suitable materials are available to meet the priority by reprinting and/or purchasing;
   - (b) If R/CU staff expertise is available to develop materials;
   - (c) Approximate length of time required for development; and
   - (d) Approximate cost of development.
3. Product Selection - Upon completion of R/CU feasibility analysis the Coordinator of Research, Curricula, and Teacher

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*SDVTE--State Department of Vocational Technical Education; R/CU--Research and Curriculum Unit.

SDVTE—R/CU CURRICULUM DEVELOPMENT SYSTEM

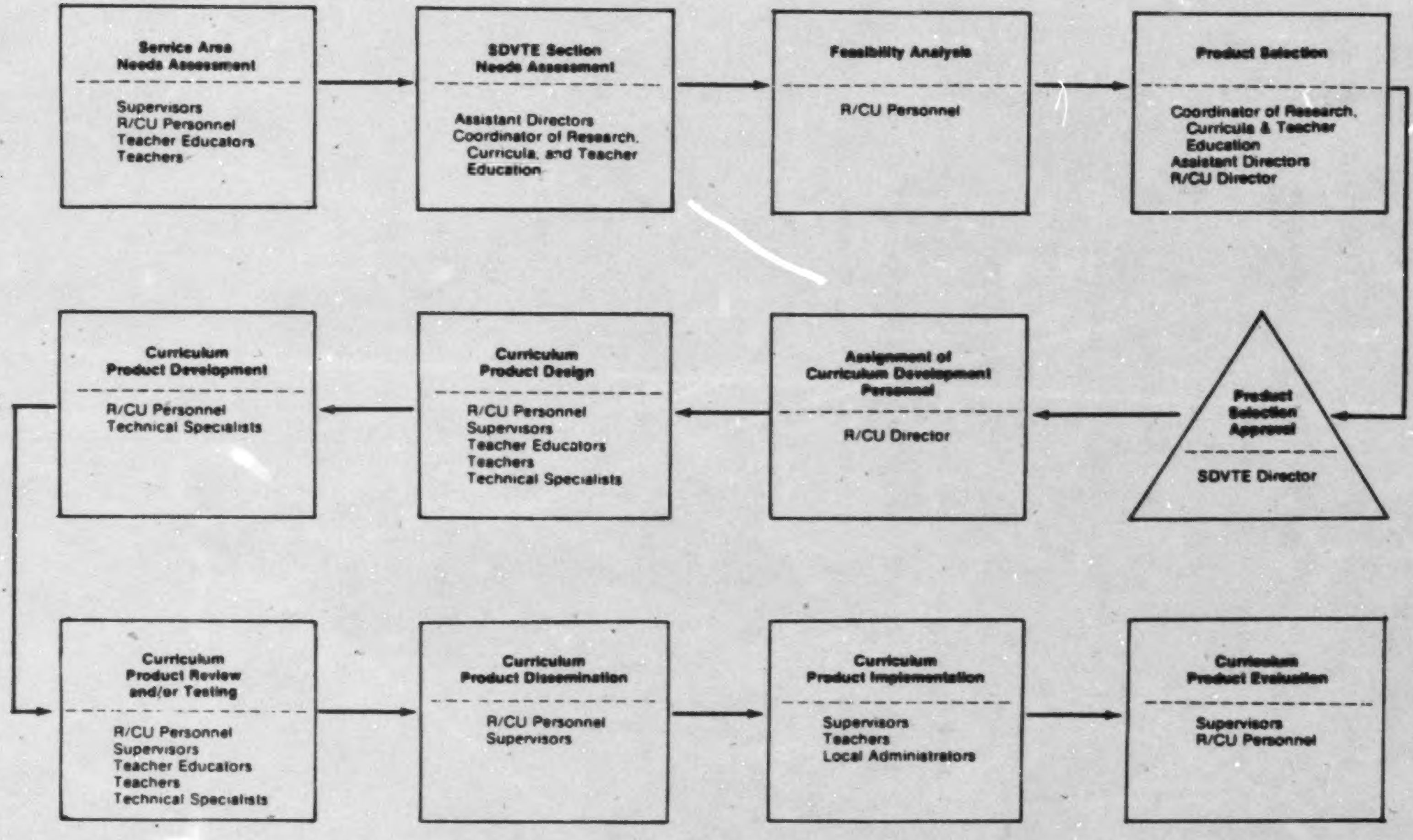

Service Area Needs Assessment
Supervisors
R/CU Personnel
Teacher Educators
Teachers
SDVTE Section Needs Assessment
Assistant Directors
Coordinator of Research, Curricula, and Teacher Education
Feasibility Analysis
R/CU Personnel
Product Selection
Coordinator of Research, Curricula & Teacher Education
Assistant Directors
R/CU Director
Product Selection Approval
SDVTE Director
Assignment of Curriculum Development Personnel
R/CU Director
Curriculum Product Design
R/CU Personnel
Supervisors
Teacher Educators
Teachers
Technical Specialists
Curriculum Product Development
R/CU Personnel
Technical Specialists
Curriculum Product Review and/or Testing
R/CU Personnel
Supervisors
Teacher Educators
Teachers
Technical Specialists
Curriculum Product Dissemination
R/CU Personnel
Supervisors
Curriculum Product Implementation
Supervisors
Teachers
Local Administrators
Curriculum Product Evaluation
Supervisors
R/CU Personnel

Figure 5

Education shall meet with the Assistant Directors, and the R/CU Director to determine specific priority areas for curriculum product development during the year.

4. Product Selection Approval - The Coordinator of Research, Curricula, and Teacher Education shall submit the selected curriculum product development priorities to the SDVTE Director for approval.

5. Assignment of Curriculum Development Personnel - Upon approval of the curriculum development priorities by the SDVTE Director, the R/CU Director will assign instructional materials specialists to priority areas for curriculum materials development. The materials specialist will continue the search for existing information begun in Step 3. In addition the specialist will begin an occupation and task analysis, following the V-TECS (Vocational-Technical Education Consortium of States) model as close as possible. Adherence to the V-TECS model usually consumes 420 or more days, during which time the following will be accomplished: (a) state-of-the-art study; (b) task list/inventory booklet (including tool list); (c) report of job domain study; (d) complete survey of incumbent workers; (e) comprehensive task analysis; (f) selection and training of writing team; (g) report writing team; (h) field test version of catalog of performance objectives, criterion-referenced measures, and performance guides; (i) complete field test; and (j) revise and duplicate finished catalog (See Figure 6).

VOCATIONAL-TECHNICAL EDUCATION CONSORTIUM OF STATES

SCHEDULE AND SEQUENCE CHART FOR THE MEMORANDUM OF AGREEMENT

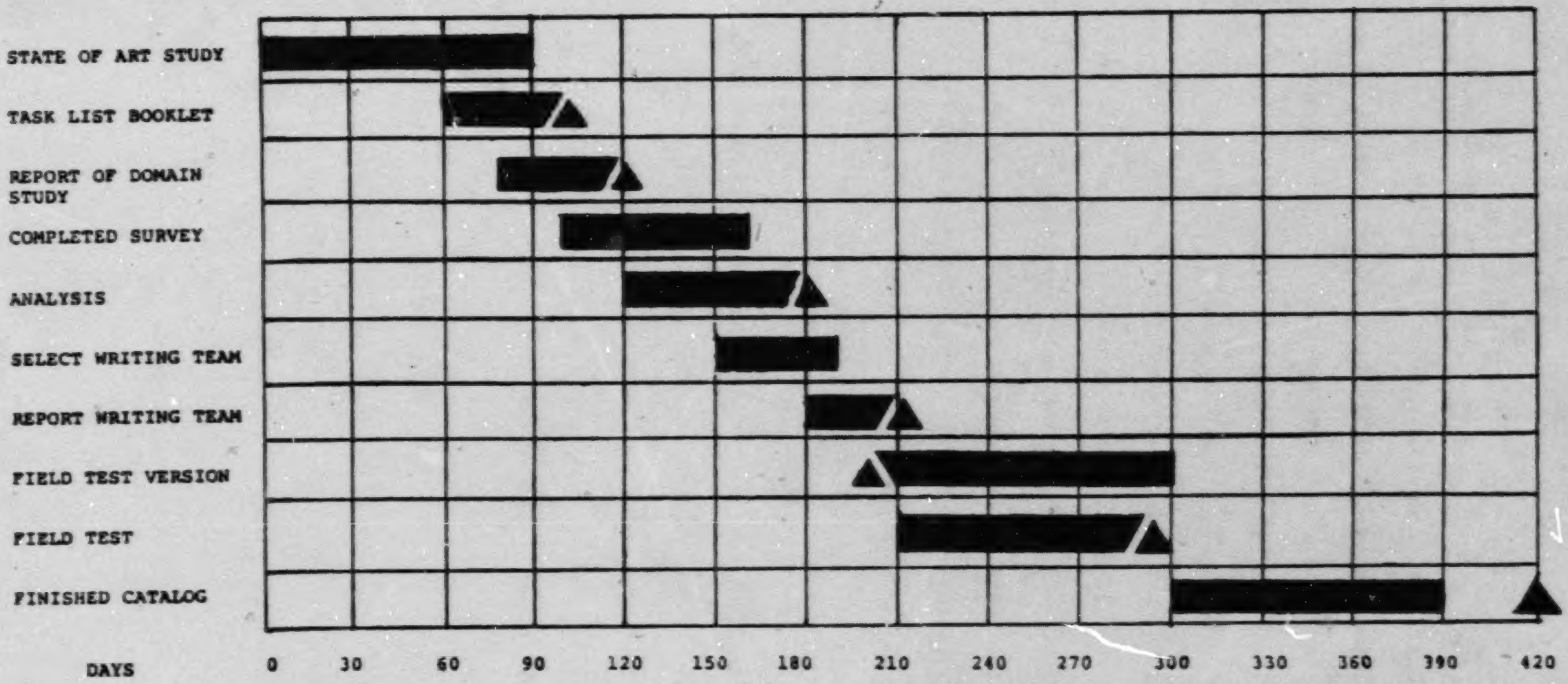


Figure 6

6. Curriculum Product Design - The instructional materials specialist will meet with supervisors, teacher educators, selected teachers, and technical specialists to refine the design of the curriculum materials. The final design will be in an individualized instructional mode that will include the performance objectives, pre- and post-tests, learning activities and/or experiences, tool-supplies-resources list, space or physical plant requirements, student progress check points, and materials needed by the instructor for management of the learning environment.

7. Curriculum Product Development - The instructional materials specialist with the aid of technical specialists will organize and develop the curriculum materials following the format decided upon in Step 6. The specialist will concentrate on the technical accuracy of the content. The specialist also will prepare supplementary or complementary materials of a multi-media nature. In this step the specialist will begin the preparation of a user's guide for instructors.

8. Curriculum Product Review and/or Testing - The instructional materials specialist will, through the use of an authentication committee (made up of SDVTE supervisory personnel, technical personnel, and teachers), review the developed materials and make needed additions/deletions or changes. If the materials are of a developmental nature, and field testing is required, this will take place after the authentication committee review. Revisions will then be made and the user's guide finalized.

9. Curriculum Product Dissemination - The methods to be used in dissemination of the developed materials will be determined by SDVTE supervisors in conjunction with R/CU instructional materials specialists.

10. Curriculum Product Implementation - The SDVTE supervisors will assist the teachers and local administrators in implementing the curriculum materials into local programs.

11. Curriculum Product Evaluation - After the developed materials have been implemented into the programs, the instructional materials specialists and the SDVTE supervisors will conduct impact evaluations.

STATEWIDE COORDINATION OF CURRICULUM

As the person responsible for the entire vocational education program in a state, the state director must designate a person on staff who will have the responsibility/authority to coordinate all curriculum activities. A few of the coordinator's activities are as follows. The coordinator identifies and recommends to the state director the appointment of a State Vo-Ed Curriculum Committee; coordinates the meetings of the committee; and serves as liaison between the committee, the state staff, teacher education staffs, local school personnel, etc. The committee's work is crucial to policy-making and prioritizing curriculum development topics. The committee members may also operate in various other components of the model.

The curriculum system model operation and subsequent revisions thereto are the major concerns of the committee. Not only does the system order the committee's work, but they, in turn, must guide the system's implementation, operation, evaluation, and revision. Following is a list of items or steps which might be used to guide the work of the committee and the coordinator of curriculum development for the state:

(1) Develop mission-purpose statement of the curriculum development system.

(2) Delineate specific operational objectives of the system.

(3) Design the system model, including general and specific activities.

(4) Describe management (MBO) sub-system of model.

(5) Describe evaluation sub-system.

(6) Prepare for external evaluation of system (optional).

(7) Decide general curriculum research and development procedures, formats, guidelines, policies, etc.

(8) Develop procedures for establishing curriculum priorities.

(9) Identify and select curriculum development alternative strategies; i.e., a single state materials development center, or more than one; use of teacher educators to develop materials; location of center(s) of SDVTE, college or university, or elsewhere; or combinations of these.

(10) Implement the curriculum research and development system.

(11) Review system operations and changes.

(12) Collect management, impact, and evaluation data (on-going).

(13) Revise system and/or sub-systems.

(14) Implement changes dictated by revisions.

(15) Prepare for system evaluation measures (internally and/or externally).

(16) Operate the system.

(17) Re-cycle steps 11-16.

The committee must constantly keep in mind that a system's effectiveness is dependent upon the accomplishment of three essential processes: the achievement of specific goals, the ability of workers to maintain the system internally, and the means to adapt to the various environments where it must operate.

INSTRUCTIONAL MATERIALS LABORATORY

UNIVERSITY OF MISSOURI-COLUMBIA

Amon Herd

I. Statement of Present Activities

The Instructional Materials Laboratory (IML) is a nonprofit organization that produces and sells instructional materials and teaching aids. These materials are sold at a price which covers the cost of reproduction and distribution. The materials, based on teachers' needs, are developed with funds supplied by the College of Education, University of Missouri-Columbia (UMC), and the Division of Career and Adult Education, State Department of Education.

The Instructional Materials Laboratory is producing and distributing materials for Agricultural Education, Business and Office Education, and Industrial Education. Aside from printing and developing instructional materials, the IML serves the various areas of the Department of Practical Arts and Vocational-Technical Education (PAVTE) on the Columbia campus by printing newsletters, bulletins, research materials and instructional materials for teacher education.

II. The Process of Instructional Materials Development

The coordinators of the various vocational service areas within the Department of Practical Arts and Vocational-Technical Education and the chairman serve as the policy committee for the Instructional Materials Laboratory. This policy committee, in consultation with the directors of the several vocational service areas in the State Department of Education, recommend instructional materials to be developed.

The directors of the several vocational service areas of the State Department of Education and appropriate representatives of the Department of Practical Arts and Vocational-Technical Education at UMC submit their requests to the IML Director. At this point the instructional materials development effort begins by involving the State Department directors, PAVTE representatives, teacher committees and PAVTE research assistants. A general planning session is held to establish a framework and timetable for the development of materials. Once this is accomplished, each member of the development team is expected to carry out his role in completing the project.

The *directors of the vocational service areas* in the State Department of Education have the responsibility for identifying teachers and involving each of them as a member of a development committee.

The *PAVTE representatives (teacher educators)* have an important role in the planning of instructional materials and implementation. They serve as resource persons with regard to instructional methodology and course construction. These individuals also aid in promoting the use of the new materials by teachers.

The *teacher committee* is the key to successful instructional materials development. The committees, composed of experienced vocational-technical teachers, help analyze occupations and identify instructional content, objectives and methodology. They also play an important role in evaluating and field testing the new instructional materials.

The *research assistants* take the preliminary materials developed by the teacher committees and organize, edit, rewrite and complete them for field testing and eventually final publishing. A number of other persons are called upon to help in the process; people from business and industry, subject-matter specialists and others who review the materials.

The development of instructional materials is not an end in itself. After the materials are developed in a preliminary form, they are field tested. After a one-year test period, a committee of instructors and research assistants will review the materials and make the recommended changes. It then becomes the responsibility of the IML Director to see that the instructional materials are edited, published, and distributed to vocational teachers.

III. Specific Objectives of Instructional Materials Laboratory

1. In consultation with committees of teachers, administrators, and curriculum and media specialists, develop and produce career education curriculum materials for direct classroom use and individual study for students enrolled in grades K-14 in general, pre-vocational and vocational-technical education programs.

2. In consultation with committees of teachers, administrators, and curriculum and media specialists, develop and produce instructional materials and media which can be used by elementary, secondary, and post-secondary teachers in the presentation of instructional content to students enrolled in career education programs.

3. In cooperation with other state or university curriculum laboratories, serve as a distribution center for instructional materials produced in the Instructional Materials Laboratory.

4. Serve as the coordinating unit for career education curriculum development in liaison with the State Department of Education, university teacher education programs, other state curriculum laboratories, and other relevant organizations and agencies with respect to their curriculum efforts.

5. In cooperation with the State Department of Education and the University of Missouri, plan and administer inservice training of educational personnel for adapting and using career education curriculum materials.

6. In cooperation with the State Research Coordinating Unit, the State Department of Education, the demonstrational schools in Missouri, and other state curriculum laboratories, evaluate the effectiveness of the curriculum laboratory in terms of meeting its stated objectives.

IV. How Committees Function

The key to successful curriculum development is the involvement of classroom teachers. All curriculum development in Missouri is backed by Teacher Committees. As our example, I am using Home Economics to illustrate how the committees function.

The Director of the Home Economics Section, Division of Career and Adult Education selects the members of the committees.

MEMBERSHIP STRUCTURE

1.
2. Staff, Home Economics Section, Department of Elementary and Secondary Education
3.
4.
5.

1. Teacher Educator, UMC (gives directives to graduate research assistants)

1.
2. Representatives, State Universities
3.

1.
2. Chairpersons, Satellite Committees (work with county representatives within respective region)
3.
4.
5.
6.
7.

1.
2. Members, Rotating Off
3.

V. Satellite Committees

The attached map illustrates how the state is divided into regions with a chairperson representing each region. That individual in turn works with county representatives within the respective region bringing ideas, needs, etc, back to the Steering Committee.

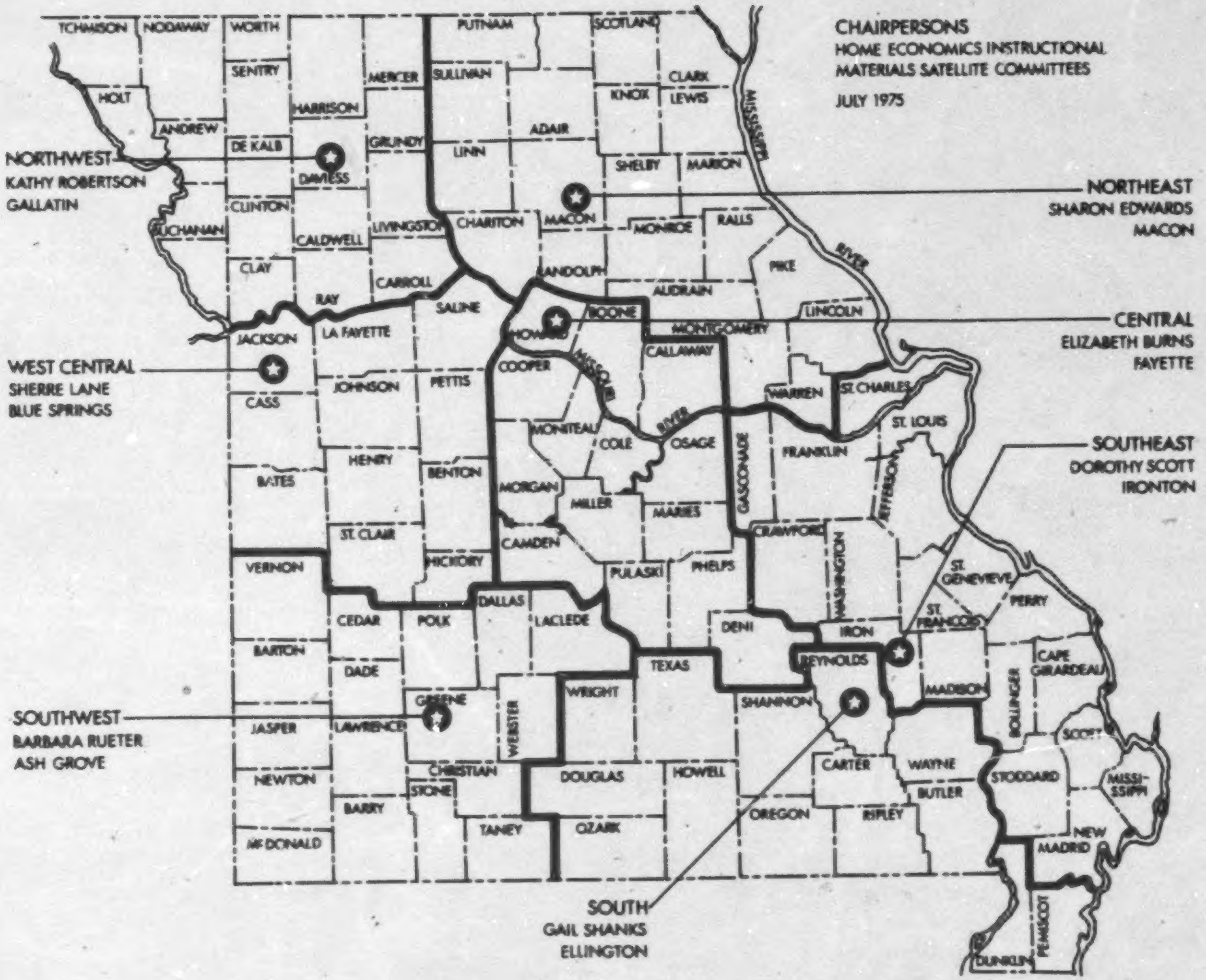
Listed below are the objectives for the Satellite Committees:

1. IDENTIFY TYPES OF INSTRUCTIONAL MATERIALS NEEDED BY HOME ECONOMICS TEACHERS.

2. REVIEW AND PROJECT PRIORITIES RELATIVE TO INSTRUCTIONAL MATERIALS AS ESTABLISHED BY THE STEERING COMMITTEE.

3. SHARE AND CRITIQUE SUCCESSFUL TEACHER-DEVELOPED INSTRUCTIONAL DEVICES SUBMITTED BY COUNTY REPRESENTATIVES.

4. ASSIST WITH FIELD TESTING OF VARIOUS INSTRUCTIONAL MATERIALS.


TCHMISON
NODAWAY
WORTH
PUTNAM
SCOTLAND
HOLT
SENTRY
MERCER
SULLIVAN
CLARK
KNOX
LEWIS
ANDREW
HARRISON
ADAIR
DE KALB
GRUNDY
LINN
SHELBY
MARION
DAVIESS
CLINTON
BUCHANAN
CALDWELL
LIVINGSTON
CHARITON
MACON
MONROE
RALLS
CLAY
RAY
CARROLL
RANDOLPH
PIKE
AUDRAIN
SALINE
BOONE
LINCOLN
JACKSON
LA FAYETTE
HOWARD
MONTGOMERY
CALLAWAY
COOPER
CASS
JOHNSON
PETTIS
WARREN
ST. CHARLES
ST. LOUIS
MONITEAU
COLE
OSAGE
FRANKLIN
HENRY
BENTON
BATES
MORGAN
MILLER
MARIES
GASCONADE
JEFFERSON
ST. CLAIR
CAMDEN
CRAWFORD
HICKORY
WASHINGTON
VERNON
PULASKI
PHELPS
ST. GENEVIEVE
DALLAS
PERRY
CEDAR
POLK
LACLEDE
ST. FRANCOIS
DENT
IRON
BARTON
DADE
TEXAS
REYNOLDS
CAPE GIRARDEAU
GREENE
WRIGHT
MADISON
JASPER
LAWRENCE
WEBSTER
SHANNON
BOLLINGER
SCOTT
CHRISTIAN
CARTER
WAYNE
NEWTON
STONE
DOUGLAS
HOWELL
STODDARD
BUTLER
MISSISSIPPI
BARRY
OREGON
RIPLEY
NEW MADRID
MCDONALD
TANEY
OZARK
PEMISCOT
DUNKLIN
MISSISSIPPI RIVER
MISSOURI RIVER

CHAIRPERSONS
HOME ECONOMICS INSTRUCTIONAL
MATERIALS SATELLITE COMMITTEES

JULY 1975

NORTHWEST
KATHY ROBERTSON
GALLATIN

NORTHEAST
SHARON EDWARDS
MACON

WEST CENTRAL
SHERRE LANE
BLUE SPRINGS

CENTRAL
ELIZABETH BURNS
FAYETTE

SOUTHEAST
DOROTHY SCOTT
IRONTON

SOUTHWEST
BARBARA RUETER
ASH GROVE

SOUTH
GAIL SHANKS
ELLINGTON

VI. Steering Committee

The State Steering Committee meets in early January of each year to develop a Program of Work. When completed the Program of Work is submitted to the Director of the Instructional Materials Lab for production. From that stage, the research assistant begins the project, working directly with the State Steering and Satellite Committees.

Listed below are objectives for the Steering Committee:

1. IDENTIFY PRIORITIES RELATIVE TO INSTRUCTIONAL MATERIALS FOR CONSUMER HOMEMAKING AND OCCUPATIONAL HOME ECONOMICS PROGRAMS (PROGRAM OF WORK).

2. APPRAISE SELECTED INSTRUCTIONAL MATERIALS FOR POSSIBLE ADOPTION FOR THE STATE OF MISSOURI (TEACHER DEVELOPED INSTRUCTIONAL MATERIALS AND/OR NEW CURRICULA).

3. RECOMMEND FOR ADOPTION SELECTED INSTRUCTIONAL MATERIALS FOR THE STATE OF MISSOURI.

Attached is the Program of Work for Home Economics, 1975-1976.

Revised
2/1/75

HOME ECONOMICS INSTRUCTIONAL MATERIALS

PROGRAM OF WORK, 1975 - 1976

CONSUMER HOMEMAKING:	AVAILABLE	1975 - 1976
Basic Consumer Homemaking	Missouri Basic Home Economics guide	
Consumer Homemaking II		
Consumer Homemaking III		
Family Living		
Consumer Homemaking for Seniors		
Boy's Contemporary Living	Kentucky Bachelor Living guide	DEVELOP Man's Self Image, Supplementary Packet (Nearing completion)
Consumer Homemaking Special		
HUMAN DEVELOPMENT Child Development		EVALUATE Oklahoma Child Development guide (Mid-America Vocational Curriculum Consortium)
Family Relations		****
HOME MANAGEMENT Consumer Education	Texas Consumer Education, Part I-Part II guide, Oregon Personal Finance Education Guide	TABLE Buyer Beware! Individualized Instruction Packet
Home Management		****
CLOTHING AND TEXTILES Wardrobe Planning and Clothing Construction	Missouri Wardrobe Planning and Clothing Construction guide, Missouri Textile Fibers Packet and Transparency Masters	TABLE Fibers and Fabrics, Individualized Instruction Packet TABLE Three Basic Weaves, Individualized Instruction Packet
Creative Clothing		

****SURVEY and/or DEVELOP Instructional Materials (SATELLITE COMMITTEES)

CONSUMER HOMEMAKING:	AVALIABLE	1975 - 1976
FOOD AND NUTRITION Family Meals		
World Foods		**** DEVELOP World Foods guide
FAMILY SHELTER Housing and Interior Design		**** DEVELOP Household Equipment Packet
Applied Home Furnishings		
FAMILY HEALTH Family Health and Home Nursing		DEVELOP Family Health and Home Nursing guide (Nearing completion)
Personal Culture	Missouri Personal Culture guide	
OTHER	Missouri Bulletin Board Ideas	
	Missouri The Metric System in Homemaking (Slide Series)	
	Missouri Parliamentary Procedure (Manual and Transparencies)	
		**** COMPILE Bibliography: Materials from Industries

****SURVEY and/or DEVELOP Instructional Materials (SATELLITE COMMITTEES)

OCCUPATIONAL HOME ECONOMICS	AVAILABLE	1975 - 1976
Care and Guidance of Children and the Elderly and Supporting Family Services	Texas Child Care Aide guide	EVALUATE Oklahoma Child Development guide (Mid-America Vocational Curriculum Consortium)
Clothing Management, Production and Services	Texas Clothing Assistant guide	
Food Management, Production and Services	Missouri Foods guide, Missouri What About Metric in Food? (Transparencies)	
Home Furnishings, Equipment and Services		
OTHER	Oklahoma Introduction to Occupations guide	
	Missouri Job Application and Interview guide	
	Oklahoma Home and Community Services guide	
		DEVELOP Handbook for Initiating an Occupational Program/ HERO Class
		DEVELOP Careers in Home Economics (Slide Series)
		**** COMPILE Bibliography: Materials from Industries

****SURVEY and/or DEVELOP Instructional Materials (SATELLITE COMMITTEES)

ADMINISTRATIVE COMMITMENT FACILITATES CURRICULUM DEVELOPMENT FOR VOCATIONAL EDUCATION

Arch Alexander

I wish I could have come up with a title for this presentation that has more "pizzazz" than the cold sounding title I ended up with. Frankly, there is nothing cold about administrative commitment to curriculum development in our state. Had the administrative commitment been cold to lukewarm, our center for curriculum development would have died in infancy rather than grown to its present stature of leadership not only with vocational education agencies but with some of the giants of industry such as the Associated General Contractors and Associated Builders and Contractors.

Let's look back and review some of the background of administrative commitment to leadership in curriculum development for vocational education. When Francis Tuttle became State Director of Vocational Education in Oklahoma on July 1, 1967, he told Ron Meek, who had been named to the rather nondescript position of State Supervisor of Special Services, "I want you to begin to build a curriculum and instructional materials center for Oklahoma! Go out and see what others are doing and come back and design one that meets our needs." Two things were present at the time of this conversation that do not meet the eye of the typical observer. Present were Francis Tuttle's commitment to curriculum development and Ron Meek's commitment to learn all he could about the task he had been assigned and to complete the task to the best of his ability. The task has not yet been completed. The Center is still being built and improved. Francis Tuttle's commitment is still there and Ron Meek knows he has his support. Although Ron, as Center Director, does not report directly to Francis Tuttle, he knows that he has an open door to him in all matters regarding curriculum development and the Center.

You may be interested in knowing why Francis Tuttle has a commitment to curriculum development. Some of you have heard him at national meetings say, "If you really want to improve vocational education, the single most effective way to do it is in terms of curriculum." Dr. Tuttle believes that if you want to prepare a person to enter an occupational area and be effective, you must know what the occupation requires of the worker who is successful. This is job analysis and is the first step in any meaningful attempt at curriculum development. If the product of vocational education is going to be a success on the job, he or she must know what the job requires a worker to know and must be able to do what the job requires the worker to do.

At about the time our Director was committing his administration to the support of vocational curriculum development, two other things happened that buoyed his efforts. On August 8, 1967, an historic and often quoted study of vocational education in Oklahoma was released. The study is called the LTV Study after its prime contractor, Ling-Temco-Vought, Incorporated, of Dallas, Texas. The study was commissioned by then Oklahoma Governor Dewey Bartlett to get vocational education oriented to support the Governor's economic and industrial development efforts.

Finding #15 of the LTV Study was exactly what Francis Tuttle and his staff already knew and had begun to work on a few weeks earlier. Finding #15 stated, "Oklahoma lacks a comprehensive curriculum and instructional materials development laboratory to provide service for occupational training programs." The LTV Study then went on to make recommendations to meet the needs for curriculum development. I won't belabor the points they made by repeating their recommendations in detail. I'll summarize what these recommendations consisted of: establish a well equipped center at the state level; provide all levels of occupational programs with appropriate curriculum and related instructional materials; staff the center with experts supported by an adequate, competent staff of clerical and production personnel. That was the LTV Study's recommendations and that's what we have tried to do.

I said two things happened to buoy Francis Tuttle's curriculum development efforts. One was the LTV Study and the other was a new board, a State Board of Vocational and Technical Education replacing the State Board for Vocational Education which was synonomous with the State Board of Education. To serve on that Board came two young Ph.D.'s from industry. Among the first questions they asked were, "Why doesn't the machine tool operator or the electronics technician trained in one Oklahoma institution know the same thing as persons trained in the same skill areas in other Oklahoma institutions? Why don't these products of Oklahoma's vocational training programs know what industry expects them to know? What can we as a Board do about these situations?" Think back and recall what I said earlier that Oklahoma's Director believes about effective vocational education: it must prepare a worker to know what industry expects him or her to know and do what industry expects him or her to be able to do. These Board members' thoughts and questions complemented Oklahoma's commitment to curriculum development.

Ron Meek, Oklahoma's Curriculum Center Director, looked at what other states were doing. He came back and made his recommendations for facilities, equipment, staffing and philosophical commitment. We've built a new facility devoted almost exclusively to curriculum development. We have rented warehouses and printing shop space, purchased expensive equipment, and tooled up to do the job that had been outlined by the Director, the Board, and the LTV Study.

We turned to the involvement of philosophical commitment to curriculum development. We were aware of the fact that in many places a lot of curriculum materials were being prepared but tons and tons of it was being stored in classrooms, shops, laboratory storage closets, and on out of the way shelves rather than being used to prepare vocational students so they would know what they were supposed to know, and do what they were expected to do, when they went out on the job. We committed ourselves to turning out material that could and would be used. We made the decision to produce self-contained curriculum materials for the teacher and the students and to come up with a standard format adopted for all curriculum material developed by our Center.

We also decided that to provide vocational curriculum materials that would be used, we must have a structure within our state staff that would enable us to develop a priority system for curriculum development. We were cognizant of the fact that we could not immediately develop all of the curriculum materials we needed to serve all of Oklahoma's vocational education needs. We established a curriculum advisory committee to work with the Center Director. This advisory committee meets at least twice a year and may meet more frequently on the call of the Director or if the committee membership itself deems it necessary. The committee is made up of one representative from each occupational training area such as agriculture, home economics, trade and industrial, distributive education, etc. Some of the heads of these occupational divisions feel so strongly about the importance of curriculum development that they choose to serve on the advisory committee themselves. Others with lesser commitment make different kinds of arrangements for representation on this important committee. Let's be honest; not all of our staff members have the same attitude as to the importance of curriculum development. But with administrative commitment, we are winning them over.

This advisory committee makes recommendations to the Assistant Directors and the Director. After thorough staffing, priorities for development are established for the year and announced throughout the vocational education family.

Once the priorities have been established, the Center's staff begins to organize to serve these priority needs. It may mean new staff members with a different expertise. Always it means review of existing curriculum committees and establishment of new ones to meet the priorities established for the year. These committees must be made up of teachers who will be using the materials to be developed and representatives from business and industry who know what the end product must know and must be able to do. A writer must be selected who will utilize the information provided by the committee and come up with a draft of the curriculum to be presented back to the committee before it goes to our graphics department for printing.

Let's look back again to the recommendations of the LTV Study. It said "staff the center with experts." This has been difficult to do. Where do you find experts in vocational education curriculum development? Back in the late 1960's, we looked around the colleges and universities and the local education agencies (LEA's) to see what curriculum development was going on. Teachers in LEA's were struggling to determine what to teach and then teach it. They were badly in need of help and recognized it. Colleges and universities in their preservice and inservice teacher training programs taught on the average one course, usually entitled "Curriculum Development in Vocational Education." This brought a little understanding of the need for curriculum development, but did little or nothing about developing the material for mass use.

We decided we had to train and develop our own experts in curriculum development. This has been done, and it has required commitment on the part of the state staff. I don't know of a single staff member in the Curriculum Center who was an expert when he or she was hired; but we have a number of experts there and we've lost some experts to other related areas. Some of these experts who have left the Center's curriculum development efforts are: Ann Benson, who is now Executive Director for MAVCC; Bob Patton, who heads our

Graphics Division; and Wayman Penner, who is now Assistant Superintendent of the Tulsa County Area Vocational-Technical District. We've had others come and go too; not everyone likes curriculum development or is cut out to do this kind of work. It takes a special kind of person with a special kind of commitment to be a curriculum development specialist. A real curriculum specialist can lead even the inexperienced and often uncommitted to make contributions toward curriculum development.

The other day I heard a speaker at a Stillwater civic club begin his presentation with a little prayer, "Lord fill my mouth with worthwhile stuff and nudge me when I've said enough." I wish I had uttered that same prayer before I began this presentation, and I am sure you do too. Let me try to sum up something of what I have been trying to say about administrative commitment as a facilitator to vocational education curriculum development at the state level.

First of all, vocational curriculum development won't be nearly as successful without administrative commitment at the state level. The LEA's don't have time for it and the colleges and universities have not typically had the fiscal resources or personnel to do the job. I believe that LEA's staffs and college and university staffs could do the job of curriculum development if they were provided the where-with-all to do the job and had the commitment to take on the tasks. I don't really believe the LEA's or colleges and universities are the places best suited as centers for curriculum development. First of all, curriculum development done in an LEA or a particular college or university tends to be identified as that LEA's or college's curriculum and not the curriculum for a total occupational training program within a state. Another problem with curriculum development within the university setting is that much of it is done by graduate students who are more interested in developing an acceptable dissertation than developing curriculum materials that contribute to the success of vocational-technical trained workers. The curriculum center located within the state agency gets around the parochial concept of materials developed within a college or university and provides for staffing by those with a full-time commitment to curriculum development.

Along this same line we have found some good curriculum materials developed by other states. We've also found a hesitancy on the part of our teachers and administrators to use materials in their classes developed by a state other than Oklahoma. Perhaps it causes embarrassment that some other state has done something better than we have, or perhaps it stems from a philosophy often expressed by Oklahoma's late, great senator Robert S. Kerr who often said, "I am against anything I'm not in on!" We are overcoming some of the problem of not being in on things in curriculum development by joining MAVCC.

Administrative commitment to curriculum development at the state level means: (a) letting all occupational areas have input to curriculum development through the center's advisory committee; (b) involving teacher educators in curriculum development in their areas; (c) getting input from business and industry, the ultimate users of the products of vocational education; (d) getting involvement in curriculum development from the teachers who will be utilizing the materials to train their students; (e) providing adequate staff and equipment for developing the needed curriculum; (f) demonstrating patience while the staff is being trained to accomplish the job they face (few experts in the field of curriculum development such as curriculum specialists, curriculum writers, curriculum editors, and even illustrators and curriculum typists are already trained and available to the Center); and (g) being patient while the curriculum is being developed. When a curriculum need is identified, one can't just wave a magic wand and have the materials ready in a week's time. Some curricula have taken over two years to develop.

This list could go on ad infinitum but I won't bore you with an unending list. I do want to point out some more things we have found important in facilitating curriculum development. The curriculum materials must be field tested to determine their reliability and validity. The materials must be available at minimal cost to the ultimate user, the students. That's why we established our Graphics Division. We are told by commercial companies that they would have to charge four or more times what we charge for the materials for students. This could tend to limit their use. To facilitate use, we give each teacher of the occupational area for which a curriculum has been developed a copy of the material, complimentary of the State of Oklahoma.

We believe that if we stopped with the development of the materials we would have left out a most important step, inservice education workshops for teachers who will utilize these materials. We have tried many approaches to this inservice education for use of curriculum materials, from college sponsored workshops for credit, Educational

Personnel Development Act funded credit and non-credit workshops, and professional improvement inservice sessions conducted by Curriculum Center staff members.

If I have led you to believe that all is "peaches and cream" with curriculum development in Oklahoma, let me correct that. We've made a lot of progress but we've encountered some road blocks. One of our biggest problems is that even though we utilize business and industry representatives to help in designing the curricula, we still experience difficulty in identifying learning outcomes that are essential to success on the job. Some of our occupational division's staff members are not committed to curriculum development. Thus, to outsiders, it often appears that we have given inequitable effort to certain facets of curriculum development at the expense of others. This isn't true. We have not given inequitable effort to certain facets of curriculum development at the expense of others.

Some teacher educators still feel our curriculum efforts are taking away the individual teacher's academic freedom in the classroom and shop. This isn't true. In some of the areas for which curriculum has been developed, 40 percent of the teacher's time is still available for individual teacher input or development of community interests in the curriculum. Some young teachers are still doing student teaching under supervising teachers who are not using the curriculum materials or don't know how to use them.

Some opposition surfaces when we have to pay a bonus above normal state salary to get a consultant in specific areas of curriculum development.

We are attacking these roadblocks and are overcoming them "poco a poco."

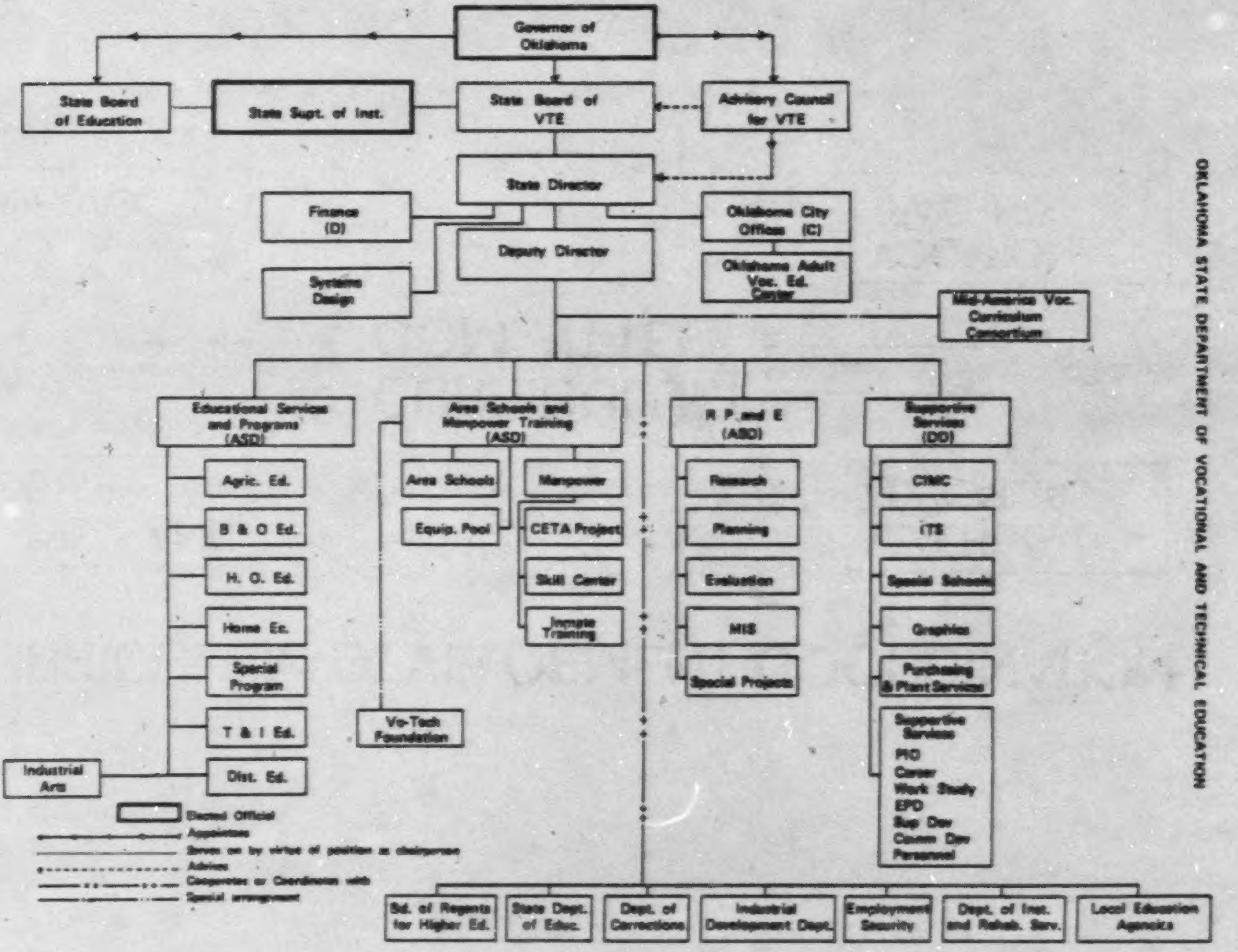
We know we are on the right track when we hear a veteran teacher of thirty years say, "I don't know how I got by all those years without these curriculum materials. I am certainly doing a better job now." A major employer of machine tool operators said, "I am most pleased to see that those I employ, whether they come from Foster Estes Vo-Tech, Gordon Cooper Vo-Tech, or the Oklahoma City Skills Center, have the same general knowledge of machine tool operations."

We get some satisfaction when we see a student custodian seated at his desk after school hours when he is supposed to be cleaning up, studying his student materials to clarify something covered in class that day. Or when we watch as a man with no mechanical ability utilizes the auto mechanics curriculum manual to repair his automobile's brakes.

These are just some of the things that we have heard and seen to make us believe in curriculum development.

We believe someone has to facilitate vocational education curriculum development. There is no better place for this facilitation to come from than the top, the State Director, the State Superintendent, and the State Board of Vocational and Technical Education. That's where facilitation comes from in Oklahoma. They have made it possible for us to staff and equip the Center. You should see the growth of the budget of the Center since its inception. The official facilitator of curriculum development in Oklahoma is Ron Meek, Center Director; but the real facilitation comes from administrative commitment at the state level. Without this, Ron's task would be most difficult.

We've come a long way in curriculum development in Oklahoma since July 1, 1967; but we've got miles to go and promises to keep. No agency or institution can rest on the laurels it has achieved by past action. Tomorrow and next year bring new needs and new challenges that must be met. The Center must produce or perish. Commitment to curriculum development must continue as long as vocational education is provided within an institutional setting.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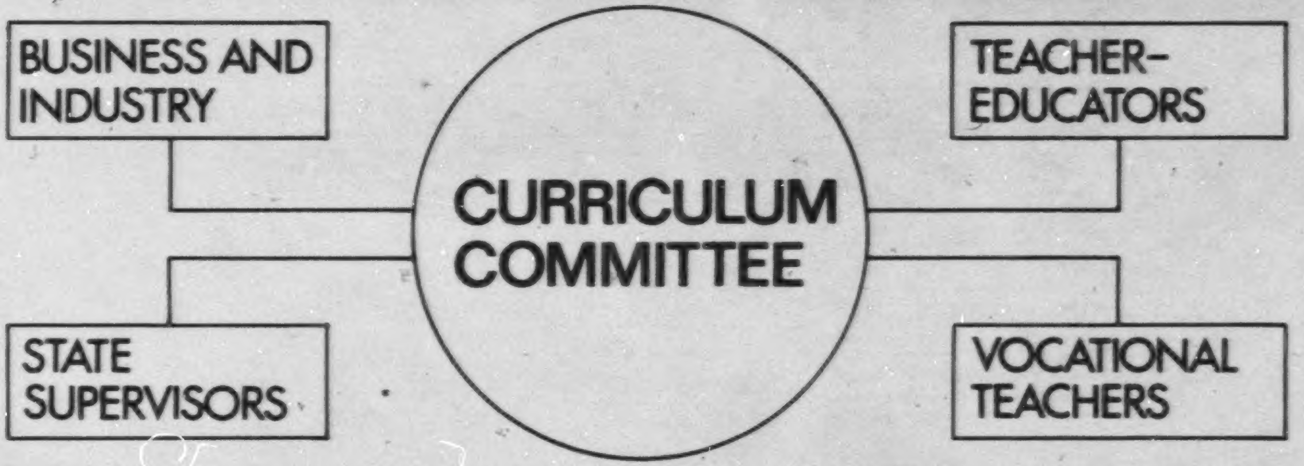
State Board of Education
State Supt. of Inst.
State Board of VTE
Advisory Council for VTE
State Director
Finance (D)
Systems Design
Deputy Director
Oklahoma City Offices (C)
Oklahoma Adult Voc. Ed. Center
Mid-America Voc. Curriculum Consortium
Educational Services and Programs (ASD)
Agric. Ed.
B & O Ed.
H. O. Ed.
Home Ec.
Special Program
T & I Ed.
Dist. Ed.
Industrial Arts
Area Schools and Manpower Training (ASD)
Area Schools
Equip. Pool
Manpower
CETA Project
Skill Center
Inmate Training
Vo-Tech Foundation
R P. and E (ASD)
Research
Planning
Evaluation
MIS
Special Projects
Supportive Services (DD)
CIMC
ITS
Special Schools
Graphics
Purchasing & Plant Services
Supportive Services
PIO
Career
Work Study
EPD
Sup Dev
Comm Dev
Personnel
Bd. of Regents for Higher Ed.
State Dept. of Educ.
Dept. of Corrections
Industrial Development Dept.
Employment Security
Dept. of Inst. and Rehab. Serv.
Local Education Agencies
Elected Official
Appointee
Serves on by virtue of position as chairperson
Advises
Cooperates or Coordinates with
Special arrangement

OKLAHOMA STATE DEPARTMENT OF VOCATIONAL AND TECHNICAL EDUCATION

CURRICULUM DEVELOPMENT COORDINATION



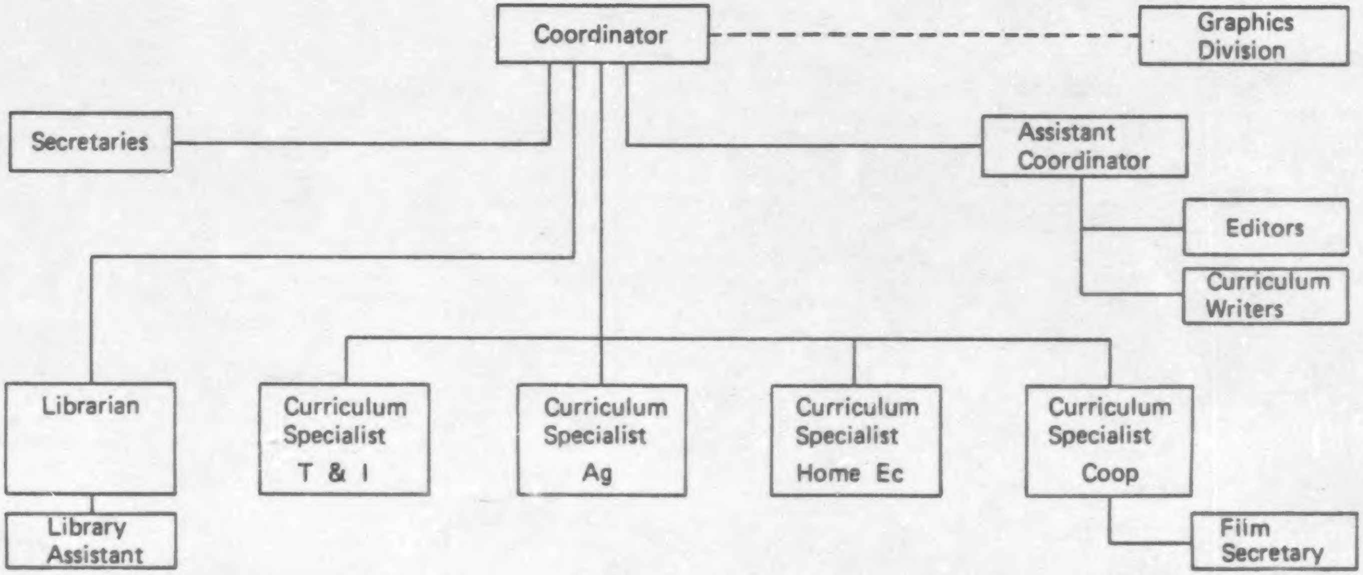
CURRICULUM COMMITTEE

BUSINESS AND INDUSTRY

TEACHER-EDUCATORS

STATE SUPERVISORS

VOCATIONAL TEACHERS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Graphics Division
Secretaries
Assistant Coordinator
Editors
Curriculum Writers
Librarian
Library Assistant
Curriculum Specialist T & I
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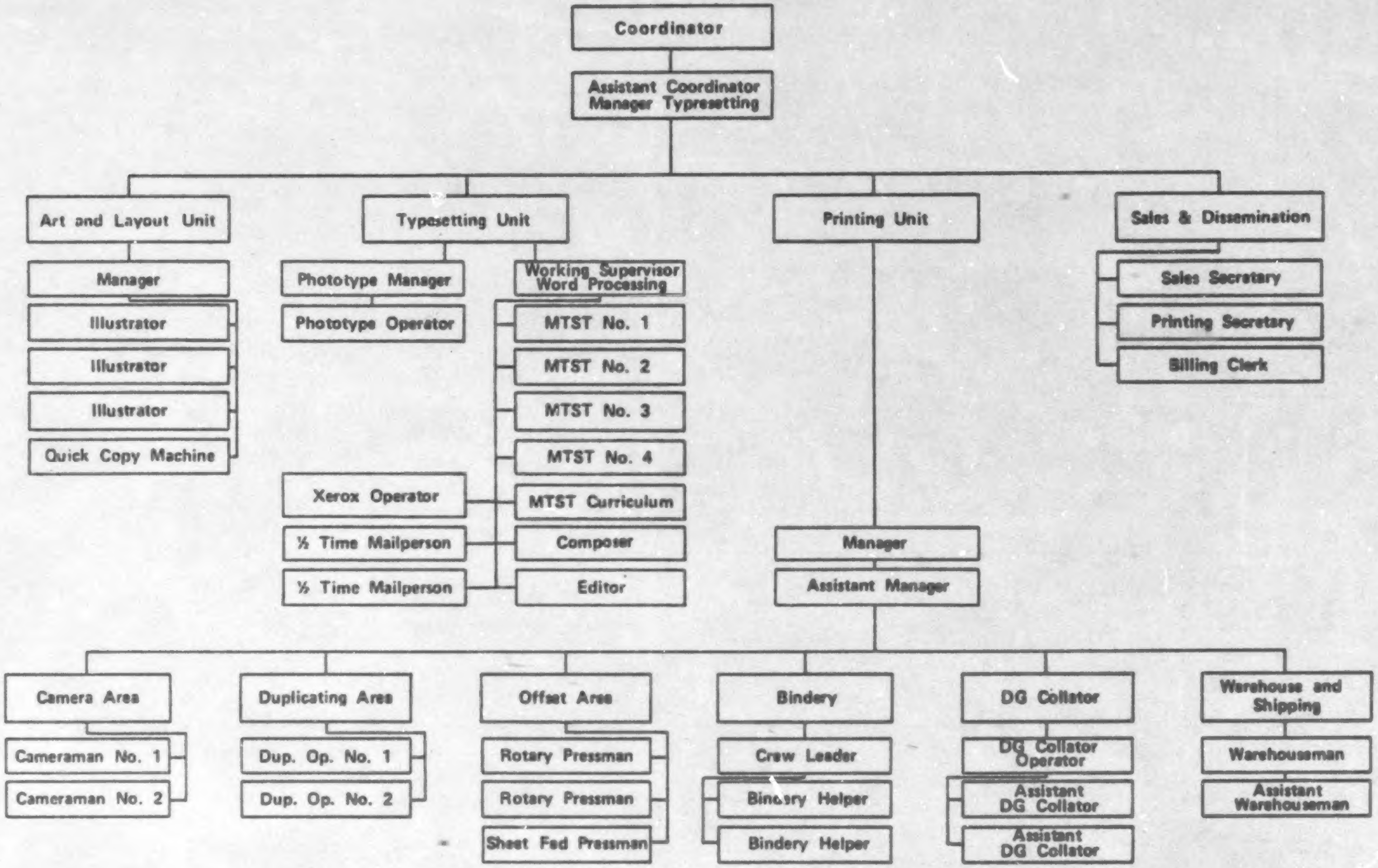
Curriculum Specialist Coop
Film Secretary

CIMC

Oklahoma State Department of Vocational and Technical Education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MTST No. 3
MTST No. 4
MTST Curriculum
Composer
Editor
Xerox Operator
½ Time Mailperson
½ Time Mailperson
Printing Unit
Manager
Assistant Manager
Sales & Dissemination
Sales Secretary
Printing Secretary
Billing Clerk
Camera Area
Cameraman No. 1
Cameraman No. 2
Duplicating Area
Dup. Op. No. 1
Dup. Op. No. 2
Offset Area
Rotary Pressman
Rotary Pressman
Sheet Fed Pressman
Bindery
Crew Leader
Bindery Helper
Bindery Helper
DG Collator
DG Collator Operator
Assistant DG Collator
Assistant DG Collator
Warehouse and Shipping
Warehouseman
Assistant Warehouseman

GRAPHICS

Oklahoma State Department of Vocational and Technical Education

"Just about the time I think I can make
ends meet —— somebody moves the ends!"

Ann Benson

It seems appropriate that every presentation should have a title, or at least a theme. So for my presentation, this saying indicates the message which for too long has been prevalent in our teaching. I hope we can overcome this concept in teaching.

Yes, for too long, we have been moving the ends in our teaching and learning. We, as teachers, have kept our students in a fog as to when actual instruction is beginning, and certainly when it is ending. To correct this, I propose that we start telling our students what we are going to teach, teach it, and evaluate what we have taught.

These three steps have served as a basis for the founding of an organization, the one which I represent. This group, the Mid-America Vocational Curriculum Consortium, consists of eleven states which have put their money and minds together to develop competency-based curriculum which will meet the needs of the students.

The single greatest challenge for those of us in vocational education is to provide training which will meet the needs of those we serve. The result of this challenge is tested every time a product of vocational education applies for a job. Therefore, it is imperative that we develop instructional materials that will pass the test.

But how? In Future Shock, Toffler says "There is so much that could be taught, it is almost impossible to decide what should be taught." Deciding what to teach is a problem. Another is deciding how to teach it. A third problem is that of duplicating efforts, in both teaching and in curriculum development. We need to impress upon our teachers, supervisors, and teacher education staffs that what is needed first is basic information.

The Mid-America Vocational Curriculum Consortium was founded in an effort to overcome some of these problems. The Board of Directors for MAVCC believes that the competencies needed for employment in entry level jobs are basic throughout all of the states served, and that by combining our efforts we can avoid needless duplication in development and also place greater validity in our training programs.

We view curriculum development as a total process, from the task analysis stage through inservice education which includes dissemination. We view curriculum which has been developed and is now sitting on a shelf as a tremendous waste, which explains our emphasis on the dissemination stage.

All of our curriculum materials are being developed in the same format. This format originated in Oklahoma, but since its beginning, has been adopted in New Mexico and Missouri, by the Midwest Curriculum Coordination Network, the Associated General Contractors of America, and the Associated Builders and Contractors of America. It has most recently been adopted as the format for the Western Curriculum Coordination Network. I recently received from Colorado State University a copy of an Automotive Emission Control manual which was developed in this manner. If so many people like it, let's take a look at a sample unit in order to view its components.

The first page of any unit of instruction is the "objective" page. On this page we see two types of objectives--the terminal or unit objective, and the specific objectives. These specific objectives might also be called the step by step, interim, sub, enabling, or subordinate objectives. They are the teaching points for the unit, and could be used as study questions.

The second component of any unit of instruction is the "suggested activities" page. Written for the instructor's use, it contains the suggestions for activities which might be accomplished in class during the instruction of this unit. It also lists the references which were used in the writing of the unit. These references are not required in order to teach the unit, but have been listed by the writer in case the instructor wishes to obtain more information.

The third component is the "information sheet." Printed on green paper for easy identification, this component lists all of the information needed to reach each of the specific objectives. Any extra information on this page which the student is not required to learn will appear in the form of a "note," "caution," or "example." Also, observe that this information appears in typical outline form, and is sequenced according to the order of the objectives.

Next, we find "transparency masters." These have been included for two purposes--for clarification and identification. Any time a specific objective contains the term identify, you can expect to find a transparency master.

Our fifth component, the "assignment sheets," is included for the purpose of providing pencil-paper practice activities. These sheets serve as reinforcement for the specific objectives, especially for those which are higher level cognitive objectives.

The "job sheets" are a means for practicing the psychomotor skills required in the objectives. These include the materials and equipment needed, the step-by-step procedures, as well as diagrams to assist the students in accomplishing the tasks.

The "tests" are provided as a means of assisting the instructor in evaluating the student's progress through the unit. As can be noted, the same performance terms which were seen on the first page are also found in the test questions. We encourage the instructors to change the tests to match any changes which might have been made on the objectives.

The last component, the "answers to the test," is provided as a means to help the instructor in evaluating the student's performance.

Since this is the format which is being used on all of the curriculum being developed by MAVCC, it is not necessary for those people involved in the total process to concern themselves with the "how" of development, but rather with what is to be included in order to make it valid.

These materials are based on a task analysis of what is needed in order to be employed in the occupation. With this information, a writer and a committee composed of supervisors, teachers, and representatives of industry become involved to develop an outline of what is to be written. After the writer completes the units, the committee meets again to make any changes which are needed before the materials are printed. We feel that the total involvement of these various people on the committee is what makes these materials valid.

The Consortium which I represent began in February of this year. What have we done? Our first curriculum, Occupational Child Development, is now available. Also being developed are curriculums for small engine repair, agriculture supplies and services, commercial foods and air conditioning. And, the priorities for next year have already been set.

So you see, in a short amount of time, the Mid-America Vocational Curriculum Consortium has implemented a system which is based on the needs of students, and which has made the teachers the managers of their classrooms. Our system has called on a wide variety of personnel in order to have validity, and has initiated the development of several curriculum areas using a proven format.

In short, we feel that learning by trial and error can work, but that our method of systematic, directed learning works better. If we can be of service please let us know.

NORTH DAKOTA VOCATIONAL EDUCATION
CURRICULUM DEVELOPMENT PLAN

Donald Eshelby

Background:

The history of curriculum development in North Dakota began with the emergence of vocational education in the State. It was the responsibility of each local education agency (LEA) to provide the best possible educational experiences for its students. The basic responsibility for the curriculum offering at the LEA remains that way to date.

Through the process of expanding the base program into the existing multi-faceted program of today, each LEA has relied on the expertise and direction of the state supervisors. The program supervisors were ultimately responsible for program content. It was, and continues to be, the responsibility of the supervisor to determine minimum basic requirements for each and every program offered to students in North Dakota.

The supervisor determines the content; the local personnel determine how the content is to be taught. There is no ideal more preciously guarded than the rights of the local instructor to determine how she or he presents the basic information to the student. It remains the American way--that of local control of education.

State and Local Responsibility:

If one examines the responsibilities of the State Department of Vocational Education as determined by the Vocational Education Act of 1963, it would be apparent that a program is offered in a local education agency once a need is established for that program. There are several other conditions which must be met in offering a program, among them teacher certification and community resources. The state agency must see that these conditions are complied with. The state agency provides the needed funds, acts as a controlling and monitoring agency, and generally sets up the guidelines for long range planning. It also serves as an evaluating agency. Local control assures that local needs are met. State supervision provides the quality and direction necessary to meet the local needs.

North Dakota supervisors are responsible for determining long range planning and evaluation of programs. The planning and evaluation are based on the central theme of the program--the curriculum. Without the hub of the program, there would be no direction. The hub controls the direction. All aspects are centered at the hub. This hub is the curriculum content of a vocational program.

However important the hub may be, it serves no purpose if the spokes are not sound, nor properly in place. The spokes, according to the plan in North Dakota, are represented by the following components of a vocational program:

a. Local Needs
b. Community Resources
c. Long Range Planning

d. Evaluation

e. Facilities

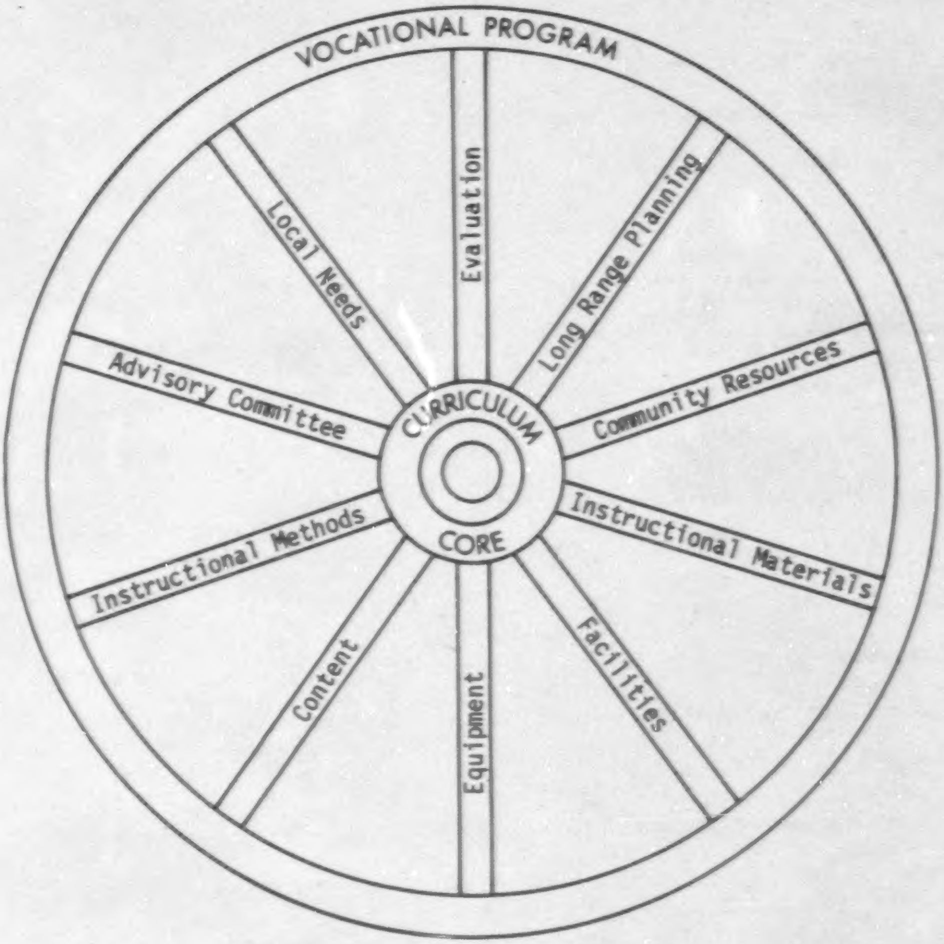
f. Equipment

g. Content

h. Advisory Committee

i. Instructional Methods

j. Instructional Materials


VOCATIONAL PROGRAM
Evaluation
Long Range Planning
Community Resources
Instructional Materials
Facilities
Equipment
Content
Instructional Methods
Advisory Committee
Local Needs
CURRICULUM
CORE

Current Practice:

How does the background and history of North Dakota vocational programs relate to current practice and philosophy? What has history taught us and what do we plan for the future?

History has proven that long range planning for all programs is a necessity. It has shown that programs which fully utilize the advisory committee and community resources are superior to those which do not. It has shown that local need should dictate program offering and that local control is a positive factor provided it is consistent with the guidelines suggested by state personnel.

History has also proven that programs die because of a non-realistic approach to vocational education, specifically the lack of realistic evaluation. Evaluation provides the insight into updating or revising an existing program. Many programs have not been updated and many have been lost as a result of this. Those that have been lost are more worthy of praise than those which are still in operation today--and there are still some in operation even though they are sadly out-dated--because they, at best, are not a burden to other programs. We must be honest and open--we do have programs in existence today that have no right to exist. They should be closed but there are many reasons why they are not. Those reasons will be discussed later in this presentation.

Do not confuse attrition of a program with realistic evaluation. Evaluation, if heeded, would have identified a program in trouble. Attrition is the result of failure to evaluate, or ignorance of evaluation results. In either case the program was not updated and failed to meet the needs of the community. Needless to say, the State Plan includes a systematic evaluation program.

North Dakota requires a local education agency to submit an intent to offer a vocational program. An annual plan is required for each program that is to be continued. The program supervisors are responsible to determine what programs are funded and the extent of those programs. Included in the conditions to be met are items such as teacher certification, course of study, and facilities. Each program is required to have a local advisory committee.

All of the material presented to this point is not new or revolutionary. Rather, it meets the letter of the law as set forth in the Act of 1963 and subsequent amendments. The Act does not specify how curriculum development is to be determined by each state. We, in North Dakota, do not develop curriculum; we localize curriculum as required by utilizing existing material.

National Network Implications:

With the advent of the Part I funded National Curriculum Coordinating Network, North Dakota curriculum efforts began to take a new twist. It is the opinion of this presentor that the National Network was the single best USOE sponsored activity since the Act of 1963. It was a dramatic step for curriculum activity in North Dakota because we do not have the facilities, equipment, and manpower that states with curriculum labs do for the purpose of developing material.

The Network provided a vehicle for identifying existing curriculum material. It provided a vehicle for material exchange. It provided a vehicle for coordinating the development and revision of material within regions. To states like North Dakota, Montana, South Dakota, and Colorado, this Network was an extremely timely activity and one which proved very beneficial.

Let us follow through on the Network impact, at least in terms of North Dakota needs. The time was ripe for our State to solidify plans to enter into a time frame of curriculum development. Considerable time and effort were directed toward this need to revise existing curriculum, particularly in trade and industrial education. The need was there to develop material, the dollars were not. Several attempts were made, under extremely limited conditions, to develop and revise materials. One such area was in auto mechanics. Agricultural needs were identified piecemeal and dollars allocated to remedy this situation. To do this, Part C monies from research were utilized. Several documents were developed and became the recognized standard for the program area.

There were many benefits resulting from the activities named heretofore, but many negative aspects were noted also. The most obvious shortcoming was that curriculum needs were identified by those making the greatest noise--an old axiom, but very true.

Shortly after my appearance on the scene, we were invited to become a member of the Curriculum Network based in Oklahoma. The rationale for the Network was explained and we decided to give it a try. One of the objectives of the Network was to share materials;

another was to coordinate the development of material; a third was to identify material under development. Armed with these concepts, North Dakota was represented at a regular meeting of the group and, as suggested, material for sharing was taken along for the benefit of others.

No one thing was ever more vividly demonstrated at that meeting than was the need to coordinate the development of curriculum materials as evidenced by the fact that, of the ten states represented, seven had brought with them a newly developed auto mechanics curriculum. Another facet of this meeting remained to be shown at some later time when a request for the revision and development of an electronics curriculum was to be denied because New Mexico was in the process of developing one. The request was made to the Research Coordinating Unit for funding but the funds were able to be used elsewhere because the New Mexico curriculum was purchased on completion and distributed to all programs for approximately $200. This was substantially less than the ten thousand requested. Minor revisions at the local level were all that was necessary for a new curriculum in the State.

Reason enough for one to become a believer in the Network but more was yet to come. A format which would provide uniformity among programs was adopted by the ten states in the Network. At the insistence of Colorado, North Dakota and South Dakota, a consortium for developing curriculum was established by the member states. This provided the next step to the fulfillment of curriculum needs of the states as the Network provided only coordination of curriculum development. No provision was made to develop materials; therefore, states without curriculum laboratories were totally dependent on other states for their materials. The consortium provided a vehicle for equality of effort and commonality of content with provision of local input.

The plan was somewhat clouded when the United States Office of Education decided to relocate North and South Dakota and Colorado in the National Network. The relocation has not affected the desire to continue the efforts of the consortium. Even though these three states do not belong to the Oklahoma Network Center, the consortium consists of the original ten members.

Curriculum Development in North Dakota:

You will recall that earlier in the presentation I mentioned that North Dakota does not develop curriculum; we prefer to localize curriculum material which currently exists by obtaining material from any source which has a curriculum that offers the quality and content we desire. We prefer material based on behavioral objectives with competencies clearly identified.

We are not too proud to accept material from another state. Our students deserve the best we can provide for them. If this means purchasing material from a sister state, then so be it. We do have some schools which do not accept change readily. These are the same schools whose programs have become sadly outdated but still offer them to their students. Our program supervisors have not closed these programs for a number of reasons, the most valid of which is that some exposure to vocational education is better than none at all and closure of the program would eliminate any chance for the student to become familiar with vocational education. Justified or not, the rationale dominates.

In order that the needs of the State be better represented in determining curriculum development and coordination through the Network and consortium efforts, we could not justify a single judgement to determine the destiny of a program even though that single judgement was that of the state supervisor. It was the decision of all people concerned that advisory committees were necessary to more properly assign priorities to curriculum needs.

An advisory committee for each service area was established. The committee was charged with the responsibility to determine what the curriculum needs are for that area. To accomplish this the committees were chosen from instructors in the field, along with teacher educators. Each committee consists of a minimum of five people and the supervisor or the assistant supervisor of the program area. Each person is chosen on the basis of his or her background in relation to the total field.

A proposed committee for agriculture/agribusiness would consist of individuals representing the following:

a. Off-farm/Sales and Services
b. Production Agriculture/Livestock
c. Production Agriculture/Grain
d. Natural Resources
e. Teacher Education

A further examination of the committees reveals that secondary and post-secondary levels are represented. When materials are being revised or "localized," or updated, the committee would increase in size to more properly represent the total program area and instructional level. To maintain a reasonable cost factor, the main committee consists of five members and meets approximately three times annually. A larger committee would meet only during revision of materials.

The results of the committees are directed to the state supervisors who determine priorities as necessary in the event that a large number of needs were identified. These priorities are given to the curriculum coordinator who uses them when the Network meets or when the curriculum consortium establishes priorities for development. Each state is required by the Network to identify its needs. These needs provide a measure whereby those states with similar needs and fortunate enough to have a curriculum laboratory can determine whether or not it is feasible to develop the material.

In the case of the consortium, the priorities are presented to the group at a regular meeting of the board of directors. Those priorities identified by more than one state are considered for development by the consortium. In North Dakota, when a state priority fails to become a product for development, alternate methods to obtain the needed material are sought. These are generally located through a search of national curriculum laboratory catalogs. These materials are then subjected to a "localizing" treatment or are provided as resource material to the existing materials.

Whenever possible, a curriculum package in readily teachable format is provided to the classroom instructor. It is the belief of this presentor and our state office that we are in the business of hiring teachers to teach and to spend their useful hours in the classroom with the students rather than hiring teachers as curriculum specialists. If it becomes apparent that some substantial effort is necessary to produce acceptable material, several instructors will be hired during an off-class period such as the summer and scheduled for a duration of two weeks or more to revise the materials. This insures that the material will be representative of the needs of all programs in the State.

Summary:

Our plan is simple. It is directed at attempting to provide the best instructional material for our teachers in a form which requires little local effort for immediate use. We utilize a system of advisory committees to determine priority areas for curriculum development. The priorities are presented, along with nine other states' priorities, to the consortium for consideration. Those not able to be developed under the consortium are sought for purchase from states which have material based on the identified format adopted by North Dakota. Revision of these purchased materials is conducted under the direction of the appropriate advisory committee by utilizing selected instructional personnel.

COLORADO EFFORTS FOR VOCATIONAL EDUCATION

CURRICULUM MATERIALS DEVELOPMENT

Wiley B. Lewis

> The effectiveness of every craftsman or professional worker depends upon circumstances surrounding his work. These include having the tools necessary for his specific job. The mechanic may know what causes an automobile engine to knock and yet without proper tools or parts be unable to correct the difficulty . . .
>
> Knowledge, understanding, and the ability to do what needs to be done are essential. Experience expands and develops them. But just knowing and being able are seldom enough. If the task is to be performed with the ease and delicate skill possible or the swiftness which may be necessary for success, ready access to appropriate tools is also important. Tools are a means through which knowledge and skill are applied.
>
> Teachers need tools to do an effective instructional job. While blackboard and textbook are a substantial beginning, learning can be both accelerated and enriched when teachers have a wide range of materials to assist in the process. The quality of any school program is closely associated with the extent to which many different types of instructional materials are available and are used by skillful teachers.

These comments by McCarthy and Hartsell (1959) are as applicable to the educational situation today, especially that situation confronting vocational educators, as they were when they were written in 1959. In Colorado, as in the rest of our nation, vocational educators are facing a great dilemma--how to facilitate educators' access to the materials for providing the quality and quantity of educational experiences considered necessary in preparing individuals for achieving their specified vocational goals.

In providing educational experiences considered relevant to students' needs, Colorado vocational educators have long recognized the importance of three entities--the instructional staff, the student, and the physical environment. These might best be portrayed in the triangular configuration shown in Figure 1. Curriculum, assuming that it is the sum total of the learning experiences for which a programmatic area has responsibility wherever they occur,[1] results from the interaction of the three entities (Figure 2). Curriculum materials--the

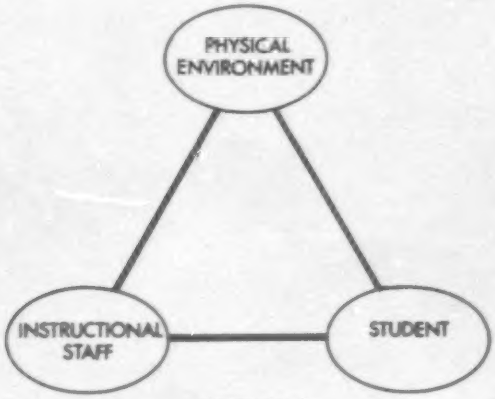

PHYSICAL ENVIRONMENT
INSTRUCTIONAL STAFF
STUDENT

FIGURE 1

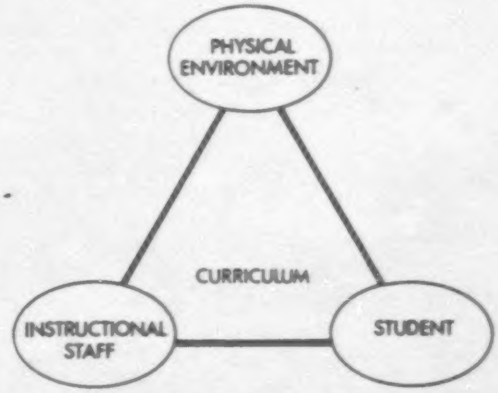

PHYSICAL ENVIRONMENT
CURRICULUM
INSTRUCTIONAL STAFF
STUDENT

FIGURE 2

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[1] Adapted from a definition by Leighbody (1969).

sensory teaching-learning materials and devices used by the teacher and/or learner to teach or to master effectively and efficiently the skills, technologies, and general areas of learning required as a worker and as a citizen[2]--are used as one means of influencing the interaction of the three entities (Figure 3).

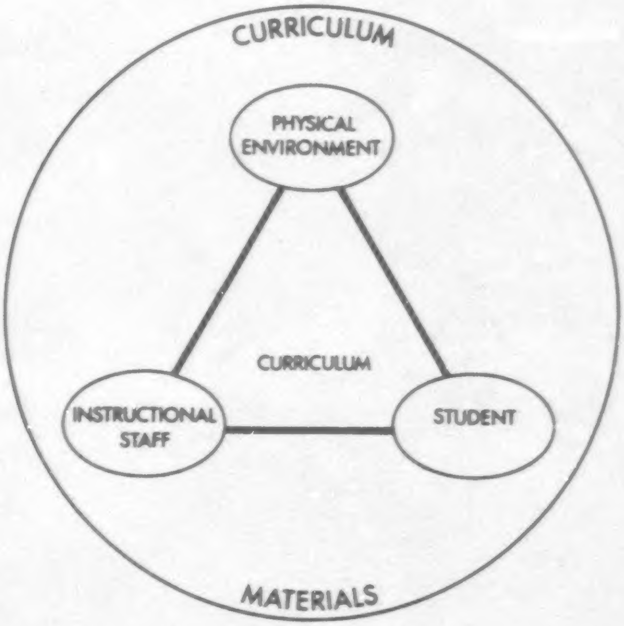
CURRICULUM
PHYSICAL ENVIRONMENT
CURRICULUM
INSTRUCTIONAL STAFF
STUDENT
MATERIALS

FIGURE 3

Efforts to make relevant curriculum materials available for use by Colorado vocational educators and vocational students have revealed that a major deterrent to making such materials available is a lack of communication. We all know that for adequate communication we must have a source and a receiver (Figure 4).

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[2] Adapted from a definition by Olivo (Larson and Blake, 1969).

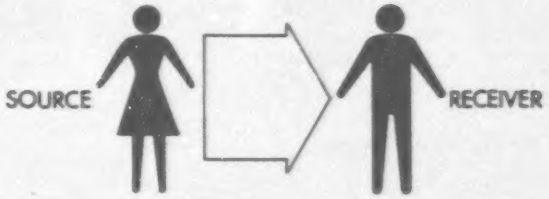

FIGURE 4

Messages or information must flow in both directions for best results (Figure 5).

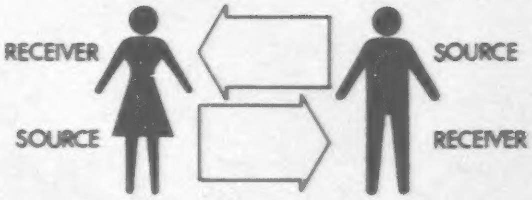

FIGURE 5

Conditions which interfere with communication are known to exist. It has been shown that these conditions include distraction, boredom, prejudice, language inconsistencies or differences, physical handicaps, mental handicaps, inability to properly interpret information, or haste in reaching conclusions.

During the design of this workshop, an attempt was made to structure the various activities to facilitate communication efforts in the development of statewide vocational education curriculum materials. It is believed that providing you with an opportunity to glean additional information relative to curriculum materials development will lead to the strengthening of Colorado vocational education programs. Such development is a systematic procedure which involves the following steps: conduct feasibility study; conduct occupational analysis; develop educational objectives; develop criterion tests; validate the criterion tests; validate educational objectives; develop learning sequence and structure; develop learning strategies; develop learning units; validate learning units; revise materials; implement and field test the materials; revise materials; disseminate/diffuse the materials; and follow-up those individuals who leave the program.

Colorado personnel must be aware of the fact that curriculum materials development involves much more than just the preparation of materials. As we begin to recognize the broad scope of activities involved in the concept of curriculum materials development, we must also recognize that we do a poor job in performing many of the activities, especially in developing criterion tests; validating criterion tests, educational objectives and learning units; and following up those individuals who leave the program.

The facilitation of vocational education curriculum materials development efforts in Colorado should be oriented toward devising and executing vocational education programs which will:

1. Provide an individualized education for each student;
2. Be highly relevant to the adult role(s) the students will play;
3. Be based on behavioral and related sciences;

4. Employ suitable systems of school organization;
5. Utilize appropriate educationally oriented technology;
6. Involve local planning and direction;
7. Be state supervised and coordinated;
8. Be financed by federal, state, and local funds; and
9. Be designed for ultimate availability to all school systems in the state.

With these characteristics adapted from ES '70 News (1969) serving to guide the Colorado curriculum materials development efforts, much can be done to improve the efficiency and effectiveness of the state's vocational education instructional programs.

To bring about programs with these characteristics, two basic types of information should be solicited. First, input should be obtained from members of the various groups involved with vocational education curricula and curriculum materials within the state as to the direction in which Colorado should be moving. Second, there is a need for comprehensive written guidelines to give direction to state-level curriculum materials development efforts.

While efforts are currently underway to obtain these types of information, other activities are being conducted to facilitate the availability of quality curriculum materials to Colorado vocational educators and students. These activities can be generally classified into four groups--library, production, dissemination, and diffusion activities.

A library containing approximately 6,000 volumes of curriculum materials, mostly non-commercial materials, is currently maintained in the Department of Vocational Education, Colorado State University. The materials are made available to Colorado vocational educators primarily for review purposes. All of the library materials are identified in a catalog which is made available to vocational educators throughout the state. Educators can order materials by mail, which in turn will be shipped to the educator my mail, and then returned to the library by mail.

In production, curriculum materials are being prepared, adapted, or adopted either within the state or as a cooperative effort with another state or states. Regardless of where the production takes place, it is generally believed practicing teachers should be utilized in an advisory capacity rather than as producers of curriculum materials. The actual production should be performed by a curriculum specialist who has expertise in the occupational area as well as teaching experience but who is currently relieved of teaching responsibilities.

Because one of the state-level objectives at this point is to impact as many programs as possible, much attention is being given to print material using the format promoted by the Mid-America Vocational Curriculum Consortium. This format has been adopted by Colorado personnel as the basis for our print development.

Other developmental efforts involve audiovisual materials such as films and recordings. Developers in these instances have adopted formats considered best for their materials. Learning activity packages, using a specific format, are currently being developed by personnel at two institutions within the State, Larimer County Vocational-Technical Center and Warren Occupational-Technical Center.

Some materials from this effort will be available for use throughout the State during 1976-1977.

All production efforts are oriented toward making materials available which have been approved by the state supervisor responsible for the programmatic area and by an advisory committee composed of educators and industry personnel. In this manner it is anticipated that we might begin to establish minimum program standards for content, as well as be of service to teachers, especially new teachers, by suggesting instructional content.

If the developed curriculum materials are to have a major impact on vocational education programs, it is imperative that the materials be provided for use by educators and that educators be prepared to use such materials. To facilitate this, dissemination and diffusion activities are provided.

As part of the Curriculum Materials Service, Department of Vocational Education, Colorado State University, an attempt is made to provide curriculum materials to educators without a planned effort to familiarize them with them with the content or intended use of the materials. Distribution of materials through the mail or simply passing them out at a group meeting would be classified as a dissemination activity. As result of a ruling by the Executive Committee, Colorado State Board for Community Colleges and Occupational Education, all items made available through dissemination efforts are done so on a cost-recovery basis.

Diffusion efforts are planned with the state supervisor responsible for the program area. Diffusion activities involve the preparation of educators to best utilize specific curriculum materials. For example, a session in which particular attention is given to the utilization of an automotive repair curriculum guide, particularly its contents and how it might be best used, would be classified as a diffusion activity.

Even with the activities which I have described this morning, there is much yet to be done in the area of curriculum materials development. To facilitate the required developmental efforts, an attempt must be made to encourage, coordinate, and implement activities which would help develop, as efficiently and effectively as possible, the desired types of curriculum materials for use in Colorado vocational education programs. This workshop is but one attempt to move toward achieving that goal.

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STANDARD CHARACTERISTICS OF VOCATIONAL EDUCATION

Darrell L. Parks

Standard characteristics are an inherent part of the philosophy and definition of vocational education. Standard characteristics should be:

- an outgrowth of a philosophy of vocational education;
- consistent with the role of vocational education;
- a corporate part of the governance of vocational education; and
- supportive to the definition of vocational education.

Thus, the standard characteristics of vocational education, as set forth in this paper, will by necessity reflect and relate to a philosophy and definition. Furthermore, the term "standard characteristics," as reflected within the content of this paper, relates to distinguishing traits or features regarding vocational education which are important in fulfilling its purpose, and which may or may not be consistent with individual educational disciplines.

For the purpose of this paper, standard characteristics of vocational education will be viewed from a perspective common to both state and local levels of program administration and/or operation. Admittedly, selected characteristics may have slightly different interpretations depending on the program level. However, the ensuing proposed characteristics are inherent to sound program management and effective services to youth and adults regardless of the level of operation.

1. Philosophical and educational foundation

Initially a program of vocational education must be founded upon a sound philosophical and educational base. Without such a base upon which to build, the program will have neither stability nor a sense of direction.

The program philosophy should reflect the fundamental purpose of vocational education and its place in the social, economic and educational environments. Specifically, the philosophy should address two fundamental questions:

a. *Why* vocational education in lieu of or in conjunction with other educational concepts?

b. *What* is vocational education with respect to meeting current and projected social, economic and individual needs?

The educational program should be a core type curriculum aimed at preparing individuals for employment. Such a vocational education base must embrace the principles of learning which point up the importance of the relationship of knowledge taught to the effective use and application of such knowledge.

The philosophical and educational foundation for vocational education must emanate from a state leadership point of view. However, such a foundation must be subscribed to at the local level of program administration and operation if it is to be effective.

Subsequent to the formulating of a philosophical and educational base relative to vocational education, it is necessary to structure and implement an effective delivery system for vocational education. Such a delivery system must possess a set of standard characteristics if the state educational agency (SEA) and the local educational agencies (LEA's) are to fulfill their respective leadership roles in program development, implementation and administration.

2. Constituency support

Although treated as a separate entity, building program constituency is dependent upon and closely allied with other characteristics related to program philosophy, quality and outcomes. However, the importance of program constituency merits discussing it independently of other common characteristics.

Constituency support does not come about automatically, but must be cultivated and nurtured at all program levels if vocational education is to prosper and grow. Vocational education is a service effort for both the individual and business and industry. Close relationships must be developed and maintained with persons who need vocational education and agencies who employ the product in order to assure current and relevant program content and skill development. Vocational education functions within, and as a part of the social and economic environment. Community involvement and input must be sought and taken into account if continuing public support is to be realized. Legislatively, there must be laws and regulations and financial support for vocational education if it is to reach its potential in services to our society, and finally, vocational education must be packaged in such a manner that it appeals to the needs and interests of a significant segment of the student clientele.

Ultimately, the goal of building a constituency is to attain the degree of commitment and support for vocational education that will assure its prominence and permanence on the educational scene. Thus, each program level and, in fact, each individual program offering, must possess and effectively utilize the appropriate constituency promoting vehicles essential to program development, operation and success.

3. Program Planning

It is the responsibility of the SEA to provide an adequate program of vocational education for all people in all parts of the state. In order to fulfill such a responsibility, careful and detailed planning on a statewide basis is essential. Such planning must be based upon a set of statewide goals and measurable program objectives and the effective utilization of valid regional and/or statewide data and information.

Once developed, the state plan for vocational education must be translated into LEA level plans of action. If differences arise between SEA and LEA plans of action for vocational education, adjustments will have to be effected in order that the plans are compatible. Hence, a standard characteristic of vocational education at all program levels should be a carefully developed and documented program plan that is based upon a set of specific goals and measurable program objectives and which will facilitate and support subsequent planning and programming efforts.

4. Pattern for program development and expansion

Like most social movements supported and financed via local, state and/or federal tax revenues, vocational education must compete for the limited tax dollar. Based on the assumption that vocational education needs exceed available sources of revenue, it is essential that optimal use be made of available dollars. The assurance that fiscal optimization is being realized necessitates a carefully derived pattern for program development and expansion. Thus, a fourth standard characteristic of vocational education should be the existence of a comprehensive pattern for program development and expansion supported by legislation and fiscal commitments at the state and local levels, and which takes into account occupational needs, student base, and education resources available or required.

5. Program standards

In order to provide the quality of services needed by the individual and employers and to assure an effective use of fiscal and educational resources throughout the state, it is essential that vocational education programs be built around and maintained upon a set of appropriate program standards. These standards should address the "four factors of production" relative to vocational education, namely: curriculum and instruction; facilities and equipment; instructional staff; and students. Consequently, a fifth standard characteristic of vocational education should be the availability of a comprehensive set of program standards related to the "four factors of production" in vocational education that contribute to and enhance the quality of the programs of instruction. Such standards must be accompanied by the appropriate mechanisms for monitoring and enforcing them.

6. Personnel development

Regardless of the soundness of the program philosophy, the comprehensiveness of goals and objectives, or the appropriateness of program standards, the degree to which vocational education is effective is largely dependent upon the availability of quality state and local leadership and instructional personnel. An adequate supply of competent personnel is too important to vocational education's success to leave to chance. Thus, a sixth standard characteristic of vocational education should be a well defined and operative program of professional personnel development which assures an adequate supply of leadership and instructional personnel who are imbued with both the technical and pedagogical skills and understandings essential to program development and operation.

7. Evaluation

Program review and evaluation are key ingredients to any program's success. Program review in vocational education should embrace two dimensions; namely, process and product evaluation.

Process evaluation is formative in nature and its primary purpose should be the improvement, development and expansion of vocational education. This evaluative component assures the effectiveness of the program variables of curriculum and instruction, facilities and equipment, instructional staff and students. Comprehensive evaluation measures of a formative nature should provide for a self-review of programs at the operational level as well as an external assessment from a SEA perspective.

The degree of success and support enjoyed by vocational education will be largely dependent upon the number of students who obtain full time employment and who perform satisfactorily on the job. Such employment obtained by the products of vocational education must be directly related or closely associated to the type of training received. Student placement and follow-up is essentially a product or summative evaluation component and is the accountability measure for vocational education. Placement and follow-up evaluation is primarily a LEA responsibility and not only reflects the qualitative aspects of the educational program, but also assesses the soundness of the philosophical and educational base upon which the program has been built.

Therefore, an inherent standard characteristic of vocational education is a mechanism which provides for periodic formative and summative program evaluation. It is desirable that such a review process include a LEA self-review and an external review from a SEA level. The evaluation mechanism should also provide a means for review follow-up and program redirection.

In summary, standard characteristics of vocational education must be an outgrowth of and built upon a philosophical foundation. Once the standard characteristics have been determined, operational criteria must be established for each standard characteristic. The establishing of such operational criteria must once again evolve from and relate to the program philosophy.

WORKSHOP

SCENES

Photographs by Leonard Nasman

IMPLICATIONS OF COPYRIGHT LAWS FOR EDUCATION[1]

Edwin L. Spangler, Jr.

I hope I can give you a little information this morning on a very interesting, and fortunately, a relatively simple field of law--statutory protection. I am a patent lawyer and I deal exclusively with patents, trademarks, and copyrights, all of which are creatures of statute. The government says that you can get protection for your inventions and that you can also get protection for your writings. These rights stem from Article 1, Section 8 of the Constitution.

I think the only way we are going to come to some conclusion on what we can and what we cannot do, is to come to some general understanding about the filing of copyrights which is not particularly complicated. The rules for obtaining a copyright are exceedingly simple. The courts interpret the law in some strange ways. Also, applying the law to a given set of facts may be difficult.

First, we are going to try and come to some conclusion as to what is not copyrightable. This, I think is most important to a proper understanding of the subject. Next, I will tell you how we obtain a copyright. In so doing, we are going to look briefly at the requirements, there are only three of them, that are necessary in order to obtain a copyright in the United States. Later, I will talk about what rights you acquire by having a copyright. We will even look at some examples of different kinds of copyrights. I will spend a little time talking about infringement, which is knowing what a copyright is and what it protects. Damages will only be touched upon briefly. I want to spend some time considering the doctrine of fair use, which is the area that is probably going to be the most significant to you. This will involve an understanding of what a person is at liberty to copy from another's copyrighted work without being in trouble.

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[1] This is an edited transcript of Mr. Spangler's remarks.

I want to also look into some special topics that Dr. Lewis asked me to consider; namely things like model releases and government publications. Actually, this latter subject is one I cannot help much on because it is almost entirely regulated by the contract under which you operate. All publications actually printed by the government are in the public domain. There may be exceptions to that but if so, I am not aware of them. Any government publication can be freely copied. As for work that is funded by the government, the contract which grants the funds will often have some provision regarding copyrights. If the contract does not contain such a provision, it would be my opinion that you are at liberty to copyright anything you want to say about the work that you did.

I am going to begin by taking a look at what is not copyrightable because there is a good deal of misunderstanding about what is copyrightable and what is not. Names used to identify products and services are not copyrightable. These are trademarks. *Kleenex*, and words of this nature are trademarks. Phrases, slogans, movie titles, book titles, and the like are not copyrightable. Blank forms are not copyrightable because they convey no information but merely provide for recording it. Schedules of events and calendars constitute information in the public domain and therefore, are not copyrightable.

The things that are copyrightable under our law, with a very few exceptions, must be all directly intelligible to the human mind. Now, a phonograph record is not copyrightable because it must be passed through some mechanical reproduction instrument in order to make it understood. There is, however, a special provision in the law with regard to phonograph records. Way back in the Victor talking machine days, Congress decided this was not going to be much of an industry so they would exempt phonograph records from the copyright laws. Just recently, about four years ago, the tape piracy problem became monumental. It was nearly breaking the big companies so Congress passed emergency legislation to cover tape piracy. That is the only exception I know to this rule; what you copyright must be directly intelligible. Computer programs are not copyrightable. Even a sound track on a movie is not copyrightable by itself; only as an integral part of the film. Probably the most important of the products of man's intellect that are not copyrightable are his ideas, plans, formats and the like. Many people think that these are copyrightable.

If the products of the mind I have just mentioned are not copyrightable, then just what is copyrightable? What is copyrightable is your particular way of expressing yourself--in a writing or in a lecture. I could, for example, copyright this talk. A painting, a play, a piece of statuary, and basically anything that has artistic expression is copyrightable. Let me give you another example. Assume that Henry Kissinger is standing up here making a major foreign policy address--I was just in Montreal where he made such a speech. There were representatives of all the major newspapers in the country there listening to his speech because they knew that he was going to make a major foreign policy statement. Obviously, these reporters would return to their papers and editorialize upon what they heard. Here was a single common source of information; yet, every single editorial they wrote was copyrightable. Their writings expressed in their own words, their reaction to what Kissinger said. It is this personal expression that is copyrightable.

Let us assume further that the reporter from the *New York Times* fell in with evil companions and did not get to the meeting where the talk was made. Fortunately for him, one of the other reporter's editorial was published before the *Times* was due to go to press. Assume he reads the published editorial, paraphrases it and sends it to his editor whereupon it is published. That is a copyright infringement. He had access to the copyrighted work and he copied it.

There are two essentials to a copyright infringement--access and copying. Mainly, copyrights deal with the way we express ourselves--artistically or in words. In other words, it is our aesthetic or artistic expression of a given subject.

The average person does not realize what a copyright covers. Generally, they think that the whole concept treated by the copyrighted work is protected and that they cannot use it. This is not true; however, if the observer believes this to be the situation, then the copyright protection has done its job.

I want to discuss two different kinds of copyrights. A copyright in the United States is a creature of statute. The Federal government set up laws which grant copyright protection to its citizens; however, the statute only becomes effective upon publication. It has nothing to say about what has taken place prior to publication.

There is a body of law called *common law* that provides protection on artistic works prior to the time they are published. This can go on for many, many years. There are no time limitations nor are there any requirements with respect to special notices which must appear upon works that have not been published. By way of example, a diary was recently found which was prepared by a fellow who was in the rooming house with John Wilkes Booth. He was in on the conversations between Booth and Spangler, who planned Lincoln's assassination. Here it has been unpublished for over 100 years; yet, that work is copyrightable today under the statute. Upon publication with a properly phrased and positioned copyright notice, it becomes copyrightable.

If you write a poem, place it in your safety deposit box and someday it becomes an *Evangeline*, you have not lost a thing. It is copyrightable upon publication. The common law copyright covers everything until the day it is published. There are no requirements as to marking or anything else. In essence, the only requirement of the common law is that you cannot publish it.

Publication is not susceptible to precise definition. In general, it amounts to just releasing the work to the public at large with no strings attached. When you submit a manuscript to a publisher, that is not publication. Rather it is a restricted disclosure for evaluation purposes. You might even have written a piece of music and performed it before a small group of friends without charging admission; this would not amount to publication. If, on the other hand, you charged admission, it very probably would be construed as a public performance for profit and therefore a publication under the copyright laws.

Any author, artist or performer should be aware of the common law as it relates to copyrights. What do you do, for instance, if you happen to get hold of something that has not been published? If there are no copyright notices on it at all, you still may be liable for copyright infringement. Suppose someone writes you a letter. You have custody of that letter and you own the physical thing--but that may be all. Perhaps it has a poem in it. Maybe this is a letter from a very famous person--a letter that has value because he is the author. All you own is the letter which you have a right to sell. This does not, under most circumstances, include the right to publish it. The author retains those rights. The communication was a private one and it was not intended that you go out and enrich yourself by publishing it for the public to read.

Now let us talk about the statutory copyright. That is, the bundle of rights that come into being upon publication of a copyrightable work. You get a copyright in the United States by, essentially, saying you have one. When you want to publish a work you have authored, you put a notice upon it that says it is copyrighted. All the Library of Congress does is acknowledge what you already have. The requirements are extremely simple. There are only three. You must have either the word *copyright*, the abbreviation *copr*, or the symbol ©. That is the first thing. The second thing you must include on most copyrightable materials is the year date of publication. The third thing is your name. There are exceptions to some of these requirements but they are really beyond the scope of these remarks.

About the only other requirement is the placement of this notice upon certain types of copyrightable materials. Most of the copyrightable materials you will be dealing with will be classified as books. Even a one page brochure is a book under the copyright laws.

These requirements sound ridiculously simple, yet they are abused to a point you would not believe. I spent about ten minutes in my office before coming up here just going through various things that were on my desk and in my library. I came across several horrible examples of how not to copyright a work. Here, for example, is the *Lawyers Pictorial Register* put out by the Denver Bar Association. For a book, the law says that the copyright notice shall appear on the title page or the reverse side of the title page. Accordingly, if I do not find it on the title page, I ought to find it on the reverse side. Sure enough, here it is © *Denver Bar Association*. Wait a minute! They left off the date; therefore, it is not copyrighted. Let us examine some others here. This is the in-house telephone directory for the corporate headquarters of Mountain Bell. It is not copyrighted and, my guess is, intentionally so. On the other hand, every single page of your home telephone directory has a copyright notice on it. All but one are surplus. That is the one on the reverse side of the title page. I have seen many copyright notices in the back of a book. If there is no notice on the title page, front or back, it is not copyrighted. You are not under any obligation to go leafing through the work page by page trying to find out whether a copyright notice appears somewhere in it.

On other types of copyrightable materials such as works of art, you may be able to leave the date off. For instance, I represent an artist, Bill Hampton. He copyrights his work by just putting his name and a little symbol ©. That is all that is required on a painting. This reproduction of one of Bill's paintings is copyrighted by the *Leanin' Tree Publishing Company* in Boulder. There is another copyright notice up here in the name of the *Leanin' Tree.*

Q. *Could anyone else copy that?*[2]

A. *No.*

Q. *Make copies of that?*

A. *No.*

Q. *Why was this other company able to do that?*

A. *They have a contract with Bill permitting them to make reproductions of his paintings.*

Q. *If you wanted to obtain reproduction rights to an original work of art, would you have to go back to the artist?*

A. *Yes.*

Q. *Go back to the* Leanin' Tree*?*

A. *No, to the artist.*

I want to mention one important point about the use of the © in preference to the word *copyright*. There is an international treaty that provides some protection for United States authors and artists in foreign countries, provided they use the © and not the word *copyright*. I always tell my clients to use the ©. Using both the word *copyright* and the symbol © is improper. It does not vitiate the copyright, but you are literally saying *copyright, copyright*. Use one or the other. The statute is very clear; you do not have to use both.

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[2] Questions (Q) were asked by members of the audience during Mr. Spangler's presentation. Since his answers (A) and audience responses (R) often help to clarify specific points, the questions, answers, and responses are included.

Generally speaking, the copyright notice should all be on one line and set apart from other notices and the like such as, the name and address of the publisher. You will also see the phrase *all rights reserved* on some publications. This really need not concern you too much as it has to do with foreign copyright protection under certain treaties. The subject of foreign copyrights is a complex one and beyond the scope of what we can go into here.

When you place the statutory copyright notice on the work, it must be on all published copies. If you leave it off, you have lost your copyright. If you publish without it, you have lost your copyright. A gentleman came to my office sometime ago who had probably spent some $50,000 on a very handsome catalog first published in 1974 and containing the copyright notice *Copyright 1974 by XYZ*. He then republished the catalog in 1975. There were a couple of new pages, a few price changes, and some deletions. Thousands of copies had already gone out to the public, *Copyright 1975 by XYZ*. Well, in so doing, he has lost most of his protection. Everything in the 1974 catalog that is common to the 1975 catalog lies in the public domain. What they should have done is put *Copyright 1974* to cover the material published in 1974 and *Copyright 1975* to cover the new material. Actually, the proper notice would have Ⓒ *1974, 1975 by XYZ.* That is why on many books and publications that have been reprinted and revised, edited, or abridged, fifteen different copyright dates will appear. Good examples of this can be found in encyclopedic works and dictionaries. You must put a copyright notice on that recites the date of first publication and then, when you revise it, add the year of the revision to the old notice.

Probably one of the most knowledgeable publishers in the United States on copyright matters is the *Reader's Digest.* Almost without exception, every article that is a digest or a reprint of another article, also carries a second copyright notice. *Man Bites Computer, New York Times, Copyright 1975 by the New York Times Company. Adventures in Two Worlds, Copyright 1935, 1937, 1938, 1939, 1943,* etc. It makes no difference that the whole issue of the magazine is copyrighted because they must also carry an appropriate copyright notice on every article to keep them from passing into the public domain.

Q. *Do they have to get permission from each author that they print in there?*

A. *They certainly do.*

Q. *Is that a written form that's used?*

A. *You can do it any way you want. I would suggest you just write to the author and request permission to reprint his or her article, including their copyright notice. I would also mention that you will acknowledge them as the author. If you think you have a copyright problem, generally speaking, the only safe course of action is to get in touch with the publisher and say,* I want to make a copy, or 10 or 50, *and obtain their permission.*

Q. What would I have to do if I wanted to start publishing something? Do I have to go through a procedure to get a copyright, or does it have to be notarized? What is the procedure?

A. If you want to obtain a copyright, first go to your publisher and have him print a proper copyright notice on the title page. Then check the proof copies before publication to be sure it's there or, preferably, have a good copyright lawyer do so for you. After this has been done, the law says you must, within a reasonable time following publication with the copyright notice appearing in the proper location, supply the Library of Congress with two copies of the best edition of the work, together with a form properly filled out and a check for $6.00. If everything is okay, you'll receive back a registration certificate in a month or so.

Q. Then who knows if you stole what you're copyrighting from someone else?

A. The only person that can do this is the author, publisher or someone else familiar with the original work. It's absolutely impossible for any government agency, or almost anyone else for that matter, to tell whether all the work you are attempting to copyright is original. That problem, basically, falls to the owner of the copyright or to the author.

Q. If another person looks at a publication and feels there are things in there taken strictly from his book, is it up to him to bring suit?

A. Essentially, yes. The author should go see his lawyer who will investigate the situation and ascertain, as best he can, whether there has been access to his client's work and whether, in fact, it has been copied.

Q. What would happen if he had not filed this with the Library of Congress?

A. Then, you can't bring suit. That is really about the only consequence of not filing for the registration.

Q. Suppose that you use a quotation and even acknowledge who the author of it is. Does this constitute copyright infringement?

A. *Generally not. If you just quote a little bit from a publication, that is not a copyright infringement. It is, I suppose, a technical infringement, but it is also an excusable one under the so-called* doctrine of fair use. *I am entitled, for instance, to go to a motion picture, review it, and quote passages from the dialogue which I think are particularly beautiful or particularly* objectionable. *That's fine. That is what we call the* doctrine of fair use. *It is a technical infringement since we have copied a portion of the copyrighted work. Technically we have infringed the copyright. Practically speaking, the courts say we must allow the public a bit of latitude in this area, but I would caution you to be* very *careful about stretching that too far. If it can be shown that you have materially diminished the salability of the work by virtue of what you've taken from it, you're in big trouble. That is one of the tests of copyright infringement.*

Now a copyright lasts for twenty-eight years from the date of publication and is renewable for another twenty-eight years. Congress has extended the term for renewal copyrights from one year to the next for the last several years while they write a new copyright law. If, when you look at a work published in the United States that you want to copy and you do not find a copyright notice of any kind, go ahead and use it. The work lies in the public domain. But if you do find a copyright notice, be very, very careful. One of the consequences of copyright infringement, which is an unfortunate one for the infringer, is that the copyright holder usually gets attorney fees. This is one of the few areas in the law where the copyright holder, once he has proven his case, gets the money back that he has paid his attorney. That can be a very substantial amount. Very rarely do you get attorney fees in a lawsuit, but this is one instance where you do.

Q. *You mentioned that if you published something in 1974 and then published a revised edition in 1975 but didn't put the 1974 notice in the 1975 edition, the material in the 1974 edition which was common to the 1975 edition would lie in the public domain; yet, that seems to conflict with this twenty-eight year period of protection. Am I missing the point?*

A. Perhaps. You see, the date in the notice must be the date of first publication. With respect to the materials that were published in 1974, it isn't. It says 1975 and all but the revised material was first published in 1974, not 1975. So to the extent that there is material in the work that was published a year earlier than what the copyright notice says, that material lies in the public domain. In other words, by leaving the 1974 notice off, you placed the material published in 1974 in the public domain. It was, however, protected until you came out with the 1975 edition and left the 1974 copyright notice off.

Now, I guess I'm missing your question with regard to the twenty-eight years. If I publish in 1974, that material is protected for twenty-eight years and then for another twenty-eight years, if I want to renew my copyright. The new material in the 1975 edition is likewise copyrightable and protected for that same length of time except that its copyright will expire a year later.

Q. Technically what you are saying then is that you could not copy from the 1974 edition because that is protected for twenty-eight years; but you could copy that same material from 1975 edition since the date was not repeated in the one that came out in 1975. Is that correct?

A. No, not quite, because the 1974 edition lies in the public domain; therefore, you have no enforceable right left in the 1974 edition. I don't care which one you copied. For instance, I can copy the entire 1974 catalog. Then, when you sue me, I will defend on the basis that you don't have a copyright anymore. You gave it away in 1975. Your right to enforce your 1974 copyright against me is gone. You let it get away when you published the same thing in 1975 without a notice on it.

Q. In other words, the 1974 copyright becomes invalid?

A. Yes, precisely, it is no longer a valid enforceable right.

Q. What if you claim that there are two separate works, even though they had 50 or 60 percent of the same material?

A. All right, now if what you did was copy the 1975 catalog and copied the new material which was added in 1975, the copyright holder is going to get you under the 1975 copyright which is still valid. I have been presupposing that all you copied was that which was in the public domain, i.e. first published in 1974. If, as you say, you copied material from the 1975 edition which was not in the 1974 one, you have infringed the 1975 copyright which is still valid and enforceable.

Q. If you published without a copyright notice and revised that document next year, and put the copyright on it, are you protected at all?

A. To the extent that the revised edition is different from the one in the public domain. This is exactly what I'm doing with my client's catalog. The only thing that is copyrighted in the 1975 edition is that which did not appear in the 1974 edition. But so long as John Q. Public doesn't know that a good deal of the material in the 1975 edition lies in the public domain, we may have all the protection we need, as a practical matter.

Q. In order to infringe on a copyright, do you actually have to publish what you are copying?

A. Yes.

Q. In other words, if you copy something and do not publish it, then it is not an infringement?

A. Technically it is, but how is anybody going to find out? I guess that is the answer to your question.

Q. Are you safe if you distributed it throughout your school or classroom?

A. No, that's a copyright infringement; very definitely a copyright infringement. I thought you were inquiring about a situation like, say, trying to reproduce Art Gore's picture showing a dandelion backlighted by the sun with a couple of seeds blowing off in the breeze. If I were to go out in my yard, got the sun behind a dandelion and I tried to reproduce that same picture, it would be a copyright infringement provided, of course, that Art's picture is copyrighted in the first place. But, unless I publish it or Art happens to walk into my living room and sees it, probably, as a practical matter, I'm in no trouble. I have, however, infringed his work.

Q. At the beginning of your presentation, I thought you listed a calendar as an uncopyrightable item. Yet, I know of calendars which bear copyright notations. Did I understand your statement?

A. That is correct, a calendar by itself is not copyrightable. While I can't ever make the calendar itself copyrightable, I can, of course, add a picture to it or fancy it up with art work such as a decorative border or, perhaps, even ornate numerals and make it copyrightable. In so doing, however, it's the art work that is copyrightable, not the dates. Sometimes I advise my clients when they want protection on uncopyrightable works to just add a minimum amount of instructional material on it sufficient to satisfy the copyright office. Even though the added material is worthless because the reader knows how to use the item just by looking at it, nevertheless, these instructions may qualify the work for copyright protection and the average observer doesn't have the vaguest idea what the copyright actually covers. If so, our copyright becomes effective to prevent copying of even the uncopyrightable material.

Q. What about road maps?

A. Yes, road maps are very definitely copyrightable. You know what they do with a road map to catch infringers? They move places. They'll take a small town like, for example, Haxton, and move it five miles down the road. If someone wants to copy that map and is willing to spend all the time necessary to check every single point on it, they might as well do their homework in the first place and produce an original map.

I had a lawsuit one time for a manufacturer who made form ties. These are small wire items that hold form walls together while you pour concrete between them. Just how many ties you use depends on how high the form is and how thick the wall is going to be. A competitor copies my client's catalog from beginning to end. On the witness stand I asked him to compute the form tie spacing for a 12-inch wall six feet high. He got out his slide rule and came up with the answer right on the nose. He was really ready for me. But I was ready for him and I gave him a second problem to solve which didn't come out like it showed in the tables. He worked and he worked but he never was going to get the answer shown in the book because we had purposely made an error. He finally said, well it looks like I copied it, doesn't it. He had of course, copied it, mistakes and all.

One interesting aspect of copyright law has to do with house plans. I can copyright a set of plans for an architect, but somebody else can go build the exact same house shown in those plans as long as they don't copy them. For instance, if I want to go to the trouble of taking pictures of the house or measuring it to the degree where I can reproduce it nail for nail, that's fine and it does not infringe the copyright on the plans. Most architects don't know that.

How do we establish infringement? Well, first, we must prove access to the copyrighted work and a copying. I do not want to confuse the issue here by bringing in patents and trademarks, but you can be an innocent infringer of a patent or an innocent infringer of a trademark. For present purposes, however, we can say that there is no innocent infringer of a copyright because he or she must copy something with a copyright notice on it. Now, this is not always true because the infringer can take it to some poor printer who does not know where you got it and, when he prints it up, he becomes guilty of infringement even though he did so innocently, but this is a technicality.

Q. *How completely do you have to copy, word for word?*

A. *No, paraphrasing is enough. There is a very interesting case about a play that was set, say, in Europe in the 17th Century. Some plagiarist took the same theme and rewrote the play in a modern setting with the action taking place on a south sea island. Despite these changes it was obvious to the court that he had copied the original work because there were too many similarities between the two. No two authors would have their characters say things in exactly the same way under a given set of circumstances unless there had been a copying. The parallels were so close that the court found copyright infringement.*

Q. *Our school compiled a cookbook of recipes that were given to us by different people. Then we copyrighted it. What if some of these people that donated their recipes had, you might say, copied them from a copyrighted cookbook? What is the situation?*

A. The school as the publisher of the book would be technically guilty of copyright infringement. A court, however, would probably excuse the school by assessing only nominal damages because it had no actual notice of the fact that anything was wrong. While the court would very likely find that the school did infringe the copyright, it would probably not hold it monetarily responsible to any significant degree. The little lady that lifted the recipe and gave it to you on the other hand, may get her hand slapped a whole lot harder.

Q. Talking about blueprints, suppose you have a drafting class in college which has as one of its projects that of designing houses. Let's assume that one of the student designs is especially appealing and you would like to build a house like that shown in the design. Does that mean that the student who made the design could come back later and say you infringed it?

A. The student has the right to copyright his plans because they are his original work. If he places a copyright notice on his plans and you somehow copy them, it is an infringement whether you build the house or not.

R. Suppose he didn't apply a copyright notice to his plans.

A. Then they lie in the public domain assuming they have been published. This, however, may be a dangerous assumption because if they have not been published, then they are covered by a common law copyright and need no notice.

R. But there's a case here before and after the fact. If you build the house before he copyrighted the plan, or it is in the public domain . . .

A. We're going to have to back up here. If the plans are published without the notice on them, they lie in the public domain. Once they become public property they can never be brought back under the protection of the statute. If I inadvertently publish a book without a notice, I've lost my right to copyright protection. It can never be recaptured. It is gone forever.

Q. What about a book that was published with a copyright notice in it, but the notice was in the wrong place? During the same year, could the front page be done over again?

A. As soon as the book was published with the notice in the wrong place, all chance for copyright protection was lost. Protection can't be recovered by doing it right later on.

Q. Say a classroom teacher copies copyrighted material for distribution to his class of thirty students. If a lawsuit results, what is the extent of the damages that that might be assessed?

A. Probably the most serious consequence is the assessment of attorney fees. The actual damages would be the diminution of the potential sale of thirty copies of his work that the author might have sold to your students which of course, is insignificant.

Q. I guess you probably answered my question, which is: if a copyrighted manual is distributed to teachers throughout the State, without the authority of the commission, would it be compounded by the number of students to which those teachers distributed the manual.

A. That's true.

Q. Perhaps I missed the point. What constitutes publication?

A. Generally speaking, publication amounts to a dissemination of the information with no restraints placed upon it. Any time I place a work on sale, publication has taken place. If you place your painting in the window of an art gallery with a price tag on it, that comes very close to being a publication, although it may not be. On the other hand, if I write a play, it is performed and I charge admission, this amounts to a publication. If the problem is one of trying to decide when to file for copyright protection, it is safest to assume the first public showing constitutes a publication. After all, you get fifty-six years of protection. If there is any doubt as to whether a publication has taken place or not, assume it has and go ahead and put the notice on. Then if publication has occurred, you're safely protected. On the other hand, if you publish without the notice and it happens to be construed as a publication, you have lost your rights.

Q. In the case of a videotape training package that was originally purchased from the copyright holder and the purchaser subsequently sold it to us while giving us permission to copy and use it in our educational institution, where are we in terms of liability to the copyright holder, and what would the copyright holder have to do to prove infringement?

A. I guess I don't see the problem. I understand they gave you a license to use it.

R. The company we purchased the videotape package from was not the publisher.

A. Oh, it's the company that sold the package to you that gave you permission to copy the work and they may not have such permission from the publisher. In this instance, you would be liable. While you may be able to recover from the people who sold you the package since they got you into the mess, what if they are financially incapable of doing so? Then you must respond with the damages even though you may be innocent of any wrongdoing.

Q. What would the publishing company have to do to prove this? Would they have to get a copy of your tape in order to prove that? If you haven't distributed it, you're just using it in your classroom . . .

A. Are you people familiar with the discovery rules in litigation? You prove your case by asking the opposing party what they know under oath and they must tell you or risk going to jail for perjury. Therefore, all the publisher need do is ask you what you have done and to provide copies which you must do.

Q. What if I recorded your presentation this morning? Are there any problems in doing so?

A. There could be, yes. My remarks are copyrightable and could be copyrighted.

Q. We all paid $25 to come in to listen to your presentation. Does that change anything?

A. Not a bit. To give you an example of this, let's say you go to the symphony. That does not entitle you to record it, much less sell the recording. That isn't part of what you bought with your admission charge. I had a very interesting case that I mentioned to Dr. Lewis. When Peggy Fleming returned to Colorado Springs following her Olympic gold-medal winning performance, she put on a show at the Broadmoor Ice Palace. She skated to a rendition of the theme from the movie West Side Story. Later, an attorney friend of mine called and inquired, I have a client that filmed this whole performance and has a sound track on it. He suddenly got a little worried that maybe he was stepping on somebody's toes. Is he? I replied, you're darn right he is. He had no right to record that background music without permission. The other attorney then went to the publisher of West Side Story which owned the theme music and obtained the needed permission for a few hundred dollars. The publisher however, inquired of the attorney who played it? Ferrante and Teischer were the artists and they demanded a good deal more for the use of their rendition.

Q. Is that a copyright the National Football League uses, for express written consent of rebroadcasting . . ., is that a copyright? They don't say it is a copyright.

A. That is really a very good question. I have hashed this around with my associates and I, frankly, don't know that answer. I don't think that they acquire any right by just saying you're not at liberty to reproduce their videocast to prevent you from doing so without a copyright.

R. I wondered about that because I used to coach a little and we would borrow formations, but we only took formations that we wanted. We didn't copy the whole thing. We just took their formations.

A. That would not be a copyright infringement. What they are talking about is someone taping that television program and using it for profit someplace else. Now they can stop you with a proper copyright from doing that. It is just that I haven't seen the copyright.

Q. How would they show that copyright?

A. Right on the air.

Q. Basically, you're saying that anything taken off of television, unless it shows an actual copyright, there would be no infringement.

A. Generally speaking, that's the case, yes.

Q. On my own time I developed instructional materials. Can I copyright them?

A. Sure.

Q. Do you have to prove that you've done it on your own time?

A. It depends upon what your contract with your employer says. I would very much doubt that your contract with the public schools or whoever you work for says that it has ownership rights to your publications. If it has a contract that says it owns them, sure. But that's very rare.

Q. If I develop these materials on the school's time, then who owns them?

A. Generally the school would certainly have what we call a shop right in them. This means that the school, as your employer, would have the right to reproduce the materials for its own purposes. However, it would not have the right to reproduce them for sale to others.

Q. How about videotapes that are developed the same way. Are they copyrightable?

A. Videotapes? Yes, they are copyrightable.

Q. Would you just have a notice at the beginning of the tape that it was copyrighted?

A. Yes.

Q. What would constitute publication of them?

A. Probably displaying it to the general public, preferably for an admission charge, or selling the tape to some other party to be displayed.

Q. Not just use in your classroom?

A. Probably not.

Q. Let's say that I give a course in machine operation. If I make a synopsis of the methods of operation of the various machines, how to use them, etc., for my students, does it make any difference whether it's from scratch or if I copied from the manufacturers' directions?

A. Well to answer your question, we've got to first determine whether you copied from a copyrighted work or not.

R. It all depends then on the source material, whether it was copyrighted or not?

A. Basically, yes. Look at it this way. Let's assume you wrote your instruction booklet based upon many years of observation of your students. Such an instruction book is copyrightable. If, on the other hand, you rewrite an instruction booklet the manufacturer furnished to you on his piece of equipment, that could well amount to copyright infringement.

R. For instance, I have curriculum materials that I have made up and that are my own, not that I haven't used ideas from old publications and so on. In addition to that, I have included charts and other material. I didn't copyright it. I didn't have any idea that I could or how to go about it. So in the years that I've used it, there have been other schools that have got some material but now I need to rewrite it. I would say that it's been published and that it's in the public domain.

A. To the extent that it has already been published, yes, it probably is.

Q. Now what problems would I have in copyrighting any revisions that I might make of the whole thing?

A. None whatsoever. Down here in Section 5 of this Copyright Form A on books, it says, New matter in this version. If a substantial part of this work has been previously published anywhere, give a brief general statement of the nature of the new matter published for the first time in this version. So what we would do is go through your work and let the copyright office know what has been previously published and what is new.

R. I made the mistake of not putting it on there in the first place.

A. Well maybe yes and maybe no. Many times things are not worth copyrighting. For instance, if another teacher took your materials and passed them out to his class, would you sue him? I doubt it. I think what you really are searching for is recognition, such as telling his class: I got this from a good friend of mine and by golly, it's very well done. I appreciate the effort that he put into it. I think it's fine work. That's really what you want. You want acknowledgement that you were the author of the work.

Q. Let us go back to who's property it is. In a publication that I read, it stated that if you were drawing a paycheck from an institution to produce materials, then what you produce becomes the property of that institution.

A. This is correct. One of the problems in giving a talk like this is the danger inherent in generalization. I'm forced to use some generalities because I'm talking on a general subject. What you say is very true. If I am hired to author a book, naturally, the product of my endeavors belongs to my employer. If, as an inventor, I am hired to solve a particular problem, then what I invent belongs to my employer. Conversely, if I am hired to teach mechanics, but, during the course of my work I come up with a great idea; then in the absence of a contract that says my idea belongs to my employer, it is mine.

Q. What if you're given time off from your job for development?

A. Part of your day is devoted to development? I would say you come very close then to being hired to invent.

Q. Even though it may only be verbal?

A. Yes, provided it can be proven. On the subject of being hired to develop something, a lady at the Mathematics Laboratory of Denver University has developed several clever games to teach mathematical concepts which I have copyrighted. They were copyrighted in the name of Denver University Mathematics Laboratory because it was the employer who hired her to do them.

Q. Assuming this person then did not have a copyright in her own name but the institution did, then who is responsible for seeing that no one is infringing the copyrights?

A. The owner of the copyrights.

Q. If part of a person's day is spent in developing materials and these materials belong to the institution, who is responsible for seeing that they have not been taken from someone else's copyrighted work?

A. I would say the author is probably the only one that has any knowledge of this. It is an absolute impossibility for me as the attorney for Colorado State University to go back and check whether you lifted part of what you want copyrighted from somebody else. I may ask you if you obtained any of what you wrote from someone else and, if so, where, so that I can check the publication to see if it's copyrighted; but, beyond this, I can't do much. Even the Library of Congress isn't going to say anything either unless you copy something that anybody would recognize as not belonging to you.

Q. *Suppose you have been hired to, or been given the job of taking some very highly technical material and reducing the vocabulary level to where it can be used by people relatively low in educational ability. Does this constitute copyright infringement?*

A. *That's a real rough one. I have to go back to the statute that says what a copyright gives you the right to do. Section 1 of the copyright law gives the author of a copyrightable publication the exclusive right to print it, reprint it, publish it, copy it, vend it, translate it and make other versions. I would have to say that this is another version; therefore, the rewrite would probably constitute a copyright infringement. What do we do about it? The answer is simple. You write the author or copyright owner and ask permission to rewrite their technical piece. In all probability they will say, go ahead with our blessing. We'd love to have you do it. This is especially true if you say I very much want to acknowledge you as the original author, etc.*

I want to cover just a couple of other points that I think are most important. The first one is this so-called *Doctrine of Fair Use*. Fair use is a doctrine of court-made law that says, in effect, the public does have certain rights to copy copyrighted material. I am going to read a tiny paragraph from a very recent case as to what fair use constitutes. This happens to be in the case of Williams and Wilkens Company versus the United States.

> *The principal factors considered by the courts in deciding whether a particular use of copyrighted work is fair use are as follows: the purpose of the use, the nature of the copyrighted work, the amount and substantiality of material used in relation to the copyrighted work as a whole, and the effect of use on the copyright owner's potential market for his work.*

While these are the yardsticks, they are grossly misconstrued. If, for instance, I copy the entire copyrighted work, the poor author has been had. He has lost at least one potential sale by virtue of what you copied, and so on. If, however, I copy a very diminutive part of the work to merely editorialize upon it, like I stated before, there is no problem. In fact, we may have enhanced the value of his work by giving it publicity assuming it is favorable comment. What if we use what we copied for a worthwhile purpose? It should not probably excuse you, but it may. It is but one factor in many the court will look to in order to decide whether your copying amounts to a fair use. If you are out there making money off of the author's copyrighted work, then the court is going to look askance at your activities. On the other hand, if what you have done has a very lofty motive, like this lady back here was saying of making this work more readily comprehensible by those of minimal educational background, I am sure they would look with favor upon it. It is still technically a copyright infringement; however, it may be an excusable one.

This particular case I read from is very interesting. A library had copied 930,000 pages from copyrighted publications. These were articles on work done by the National Institute of Health, articles copyrighted by the publisher. The library would run copies off and send them to anybody who requested them. The publisher, naturally, became very upset and asked that these infringements be enjoined. Amazingly, and this is a terrible thing to tell you people, the court excused this practice as fair use. The reason they did so is an interesting one. The court was trying to say that Congress should provide the answer to what fair use really is and, until it faces up to this obligation, we are going to hold an obviously flagrant violation of the copyright laws to be a *fair use* in the hope that such action will get their attention. I think that is really what the court tried to say because all the cases prior to this time have been directly contrary. Generally speaking, when there has been a substantial diminution in the salability of the work and substantial copying, infringement is found. Interestingly enough, the court also said in this case that just because the research work reported in copyrighted articles resulted from grants from public health services, this gave the government no right to duplicate articles written about such government sponsored research.

If there is any question with regard to your rights with respect to your employer, I say the very simple and best answer is go ask him. Say, I want to write a book about what I am doing, but I want the copyright on it and I want to try to capitalize on it myself. Is that okay? If he says yes, just send him a letter and get his written permission.

Q. *What if he says no?*

A. *If he says no, you haven't changed your position at all. You may have rights whether he thinks you do or not, but at least you know where you stand. Then I'd say you go get yourself a lawyer and get some advice as to whether in fact you have these rights. That's not a very good answer, but it's the best one I have.*

Q. *In a school district, at what level do you have to obtain that* yes *or* no? *Your immediate supervisor, or the superintendent of school . . .*

A. *I think the answer to that, in the case of the schools, is the legal counsel for the school board. They are probably the only ones that can advise you on that. But I would go to the superintendent of the school and ask his permission. If he wants the question referred on, I think that's his choice. But, my feelings would be that if you can get a release from anyone with the actual or implied authority to give such a release, I think that's good enough.*

Q. Let's say that a student develops a term paper that's innovative, that has new ideas in it and so on, for the university. Is that copyrightable?

A. First of all, it is copyrightable, yes. As to who owns the copyright, my inclination is to say that the student owns it. It is his expression of his work, and he may copyright it. In the absence of a contractual relationship to the contrary that says the university owns the right to copyright any publications its students produce as a result of the work they do here, what this student does belongs to him.

Q. The second thing, if the person just puts a copyright on it and doesn't file with the Library of Congress, is that still legal?

A. Yes, provided he ultimately goes ahead and perfects his registration at some future date.

Q. I have one or two questions on copying music, sheet music. If you just make one copy for personal use, is this still a violation of the copyright?

A. Yes, it is still a copyright infringement.

Q. Band instructors that copy the parts, then, are infringing?

A. Yes, they sure are. Even though the chances of getting caught are one in 10,000, nevertheless, it is an infringement. To be on the safe side, I would suggest that you write to the publisher and request permission to make thirty copies for your students which they will probably not give you. They'll likely reply, we have thirty copies for sale, please let us know your requirements. That's exactly what I'd tell them to say.

Q. In a typical school where we use audiovisual materials, we're always ordering films, filmstrips, and so forth. If we get a film or filmstrip for a presentation, which does not contain the copyright notation, can we copy that?

A. Yes sir. If the copyright notice isn't there, go ahead and copy it.

Q. On a film, that would be in the introduction?

A. Yes, in the introductory material, you will find a title frame. It gives the credits, etc., and should also contain the copyright notice. If it doesn't it is in the public domain.

Q. We have as part of our vocational-technical training program, a print shop. What is our liability in our print shop, if another part of the school district brings something copyrighted to us to be printed?

A. I would say the law might impose by duty of reasonable inquiry, but, beyond that, I doubt that you would be held liable for more than nominal damages although you are, of course, technically guilty of copyright infringement as I've said several times before.

Q. What if our superintendent directs us to copy something that is copyrighted?

A. And you know it?

R. Yes, we know it. As a principal, that really puts me in a bind.

A. It sure does. I would suggest that you sit down with the superintendent and say, you know, my neck is out on this and I really don't think I should have to, as part of my job, violate the law. Then hope that he will be reasonable on this score. I think I would go so far as to say, I must ask for some indemnification.

R. I'm not as concerned as much for myself as I am for my printing instructor. I could say no, but it's a little harder for him.

A. Again, I don't think any of us should be asked to violate the law.

Q. Frequently you'll see these ads or requests in the paper for unpublished books, articles, and things of this nature. As long as you have on your title page . . . notations and everything else, if they take that material and just change it in some small way, would they be liable?

A. That is correct. This comes down to a matter of proof. How can you prove what was in existence and what you sent them. What you do first is to make a copy of what you are sending them to keep for yourself and then get a couple of friends to witness your mailing the work to the publishers. Perhaps, they could note on your copy when it was mailed and to whom.

By the way, do you know how ASCAP and BMI operate? How is it we get to go to the Brown Palace and ask Art Gore to play such and such a song? How does he obtain the right to play my request? It is because ASCAP and BMI contract with the publishers of this sheet music and the performers in such a way that the performers can play anything in their portfolio for a certain number of dollars per month. All radio stations, night clubs and other establishments offering music in situations where the public has paid admission must have contracts with these organizations, and do.

The only other point I wanted to touch on very quickly is the subject of model releases. When do you need a model release? When a living person's name or picture is used as a part of a purely factual account, whether it is a newsworthy item or just general information, he has no legal grounds to complain. For instance, if you left here and had an accident which was reported in an article in the paper which said you were cited for careless driving, this is factual reporting for which no model release is required. On the other hand, if a person's name or picture is used for commercial purposes in any way, then you better have a model release.

Let us say your picture is taken at the local saving and loan standing in front of the teller's window and this picture appears in the company's ad in the Sunday paper. You have a right to complain because it is an invasion of privacy. Conversely, if a picture is taken of a crowd at the scene of an accident, and you are part of the crowd, that is not an invasion of privacy. But when you are an identifiable person and your name or picture is being used for commercial purposes, then a model release is in order.

Q. *With respect to pictures, what does a model release allow you to do?*

A. The answer to your question depends on what your model release says. If you say, in the model release, I have complete commercial rights to use this picture in any legitimate fashion that I choose to, you've got it all. On the other hand, if the release only grants you the right to use it one time and in one publication for one ad, that's all you get. It depends on how you word the release.

Q. Does there have to be money paid in exchange for the model release?

A. Any contract should be supported by consideration. Obviously there is consideration if you're paying a model fee. Under general legal principles, I would suggest paying some consideration just to support the contract.

Q. In our release, that is what we do. We pay $1.

A. Fine. It's a good idea to say $1 and other good and valuable consideration, because it may be worth lots to the model to have his or her picture in your magazine. That's consideration also.

Q. In the case of secondary students less that 18 years old who are involved in the making of film-slide presentations, or motion pictures, or television tapes for the classroom, what type of release do we need? Do we need a model release with the parent's signature?

A. I would feel much safer with a parent's signature on it, yes.

Q. If we're photographing just the student's hands, is it necessary to have a model release?

A. I would certainly doubt that you need a release in this situation. If you are photographing a person's hands or other unidentifiable parts of their anatomy, I wouldn't bother with it.

Q. We're using videotape for role playing situations. It is being filmed on stage for later work in a classroom situation. Are we getting involved in any model release problems?

A. No, I don't think so. There's really no invasion of privacy here. First of all, the student that participated in this videotaped presentation knew that was what was going to be done with it and I would say, consented to its use in this fashion. Now, if you subsequently decide you want to use this videotape in some other way, then I'd say you had better go get the release.

R. Once we put it in the film library, technically, it's available to anybody that calls in and asks for it.

A. Is it only available to look at . . .?

R. Right. Not to copy but just to look at.

A. It would not then be available to me if I wanted to take the film clip and use it to advertise my dairy?

R. No.

A. Again, I would consider that normal use, to which the student has consented.

Q. This is very similar--in our radio and television training program the students, as part of their training, go to all parts of the building taking shots of students. Sometimes they know, sometimes they just go in and shoot. Should we get an over-all release.

A. No, I don't think so. Here again, they are part of the crowd and, as such, there is no invasion of privacy.

Q. I guess this is a loaded question that we've been kicking around. The law states that if an individual is drawing a paycheck to develop something, that institution has that copyright. But institutions are funded by the State Board for Community Colleges and Occupational Education. Therefore, is it that institution's or is it SBCCOE's?

A. Who has the right to the copyright? I don't think it makes any difference because whoever owns it can assign it to whomever they want to own it, including the author. This is frequently done right here at Colorado State University. Your employer is the University. If you will check the policy statement for faculty members, it says that the University has the right to designate the assignment of the rights it owns to whatever institution it wants to. So long as you don't own it, it really becomes immaterial so far as I can see, who ends up with it. It's an assignable right. I, as an author, own the copyright rights and the ownership rights. I can remain the author and assign the copyright rights to the publisher which is usually done.

Q. In the typical copyright infringement situation in a secondary school, would the normal procedure just be a cease and desist type of thing if the copyright holder objected?

A. Yes, I'd say so. You're not going to get sued under most circumstances. I don't want you to get sued at all. There's no reason to be. If it is a legitimate use of the copyrighted work, permission should be very easy to obtain. If the work is not copyrighted, don't worry about it. I hope you now know how to find out from what I have said.

Q. Do you have a summary, or do you know, of a place where we can get a publication that we can make available to our staff so they will become aware of these things?

Q. I'll tell you what I'd like to see you do. A good synopsis of what copyright law is all about was written by David Pantel in Denver. He is a partner in the law firm of Dawson, Nagel, Sherman, and Howard. They are in the First National Bank Building. David wrote a very nice general article on copyrights which appeared in the September issue of the Colorado Lawyer, 1972. I would imagine that reprints are available and I think you'll find it a good solid look at the copyright law.

SYSTEMS APPROACH TO CURRICULUM DEVELOPMENT—
ROLE OF INSTITUTIONS AND INDIVIDUALS

Milton E. Larson

The eyes of millions of people are focused on the schools of America. Under scrutiny is vocational education together with the total educational system. Part of this interest in education has taken the form of accountability. While students, teachers, and educational administrators occupy the central stage and receive the most intense radiation of the accountability beam, the total process of education and all who have any part of it are included in the afterglow.

The design of education--the plan, and the implementation of that plan--is centered in the curriculum. Consider the two meanings of the word curriculum.

1. Curriculum is the sum total of all learning experience directly or indirectly occurring through the schools.
2. Curriculum is the document or documents setting forth the plan for:
   a. Teaching
   b. Learning
   c. Administering and supervising

   of the vast educational enterprise.

Close to 100 billion dollars are spent annually in the United States on education. Approximately three-fourths of this is for salaries and wages. Very little of this has been earmarked for curriculum development. Yet, the curriculum is to the educational process as the road map is to the tourist. The curriculum is to the school as the blueprint is to the construction industry. Very few people today would consider building a house without a plan, but many start educational programs with none or very poorly developed curricula.

Education is now a major industry. Vocational education is an important part of that industry. Maturity of an industry is an essential feature marked by improved effectiveness and efficiency. Maturity takes time, but, it also results only if a constant effort is made towards the identified goals. A person once made the comparison of technical changes to the life spans of individuals (about 55 years) in the following manner.[1] (The assumption was that when one individual died another would take over.)

> It would take 900 people to span the last 50,000 years of man's existence. That number of people would fit into a ballroom. (Beginning with the first person and continuing through the 900th, the chronology as related to the development of technology would be as follows.)
>
> - Six hundred fifty people lived in caves or worse.
> - Only the last 70 people had any effective way of communicating with one another.
> - Only the last 6 people could measure heat and cold with any precision.

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[1] Wallace Theilman, "Role of Curriculum Laboratory in Curriculum Development" (paper read to the Institute for Occupational Analysis, Colorado State University, 1969).

- Only the last 5 ever saw a printed word

- Only the last 4 could measure time with any precision.

- Only the last 2 got to use an electric motor.

- The last 1—almost everything which makes up our material world has come about during the life span of this 900th person. And, gentlemen, in 10 years I don't expect to buy a thing that is being made today.

Systems Approach

Modern industrial production has resulted from the ability to develop appropriate solutions for the problems. Creative individuals have formulated more effective and efficient ways of accomplishing the goals desired. Techniques, such as mass production and division of labor, became common in major industrial concerns. Individual efforts were supplemented with team efforts plus interrelated and and inter-acting components and the systems approach was born.

The systems approach is now being recognized, in some states, as essential in curriculum development. Vocational education, with its many complexities, can no longer be considered the domain of one individual or one local educational agency. The time is rapidly drawing to a close when each individual instructor should have to perform all of the tasks necessary for relevant curriculum development. Accountability and relevancy in education is demanding a more valid plan of curriculum development than is possible by the vocational teacher who is also carrying a full-time teaching load and at the same time saddled with curriculum development responsibilities.

Better vocational education will only result when better curricula are developed. This demands teamwork on the part of many agencies and individuals. An integrated, interrelated, inter-acting system must be developed with each agency and each individual in each of the agencies assuming predetermined roles in accordance with the functions that must be performed. Each level of governmental structure or agency structure must assume its responsibility in accordance with its role in the hierarchy, if the curriculum development process is to be carried out effectively.

The curriculum is the design for the education system. The educational system is a set of interrelated, inter-acting learning experiences controlled to achieve objectives essential for employment. The systems approach is the process for:

- Determining education feasibility
- Analyzing tasks performed in the occupation or on the job
- Defining the job performance requirements
- Developing the educational objectives
- Formulating the curriculum content
- Sequencing the content
- Determining the learning-teaching strategies, methods, media, and materials
- Determining the support resources and curriculum materials
- Validating the curriculum and curriculum materials
- Following up to secure feedback for improvement and refinement

Several models have been developed of such systems. The complexity of the system varies with the situation and conceptualized solutions to the problems. Basic to the systems approach is the relation of the functional components. The systems approach to curriculum development is an orderly process of gathering and analyzing job performance requirements; designing the learning-teaching experiences; and evaluating the effectiveness of the learning experiences.

The interrelationships and inter-actions as well as the main components can be identified in Figures 1 through 4.

Further study of a systems approach to instruction delineates the tasks essential in curriculum development. An outline of these tasks grouped under major activities might be as follows:

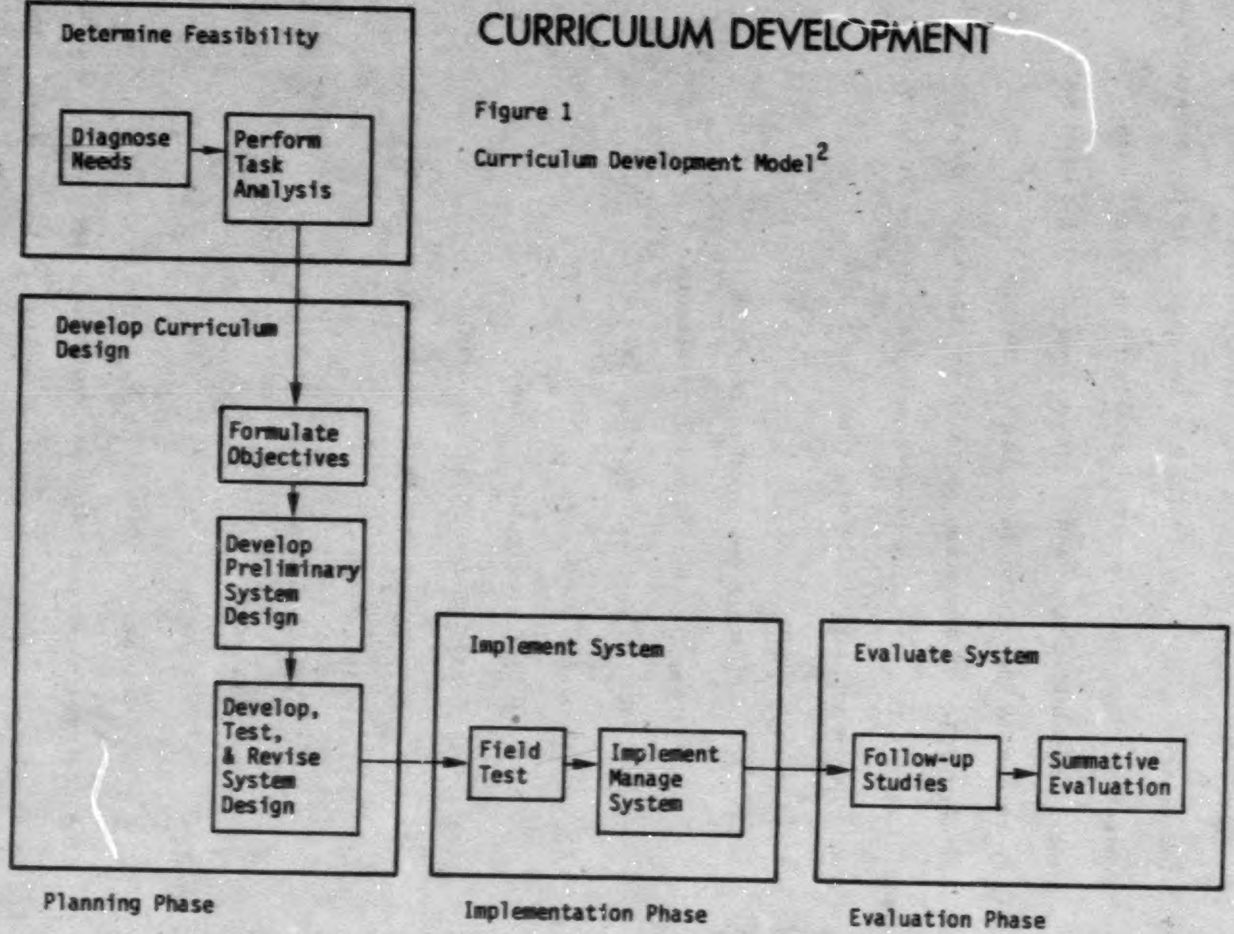
A. Analysis phase
    1. Define job performance requirements
    2. Identify educational requirements
    3. Define performance objectives
B. Developmental phase
    1. Select curriculum content
    2. Design instructional materials
    3. Select mode, media, activities, and resources
C. Implementation phase
    1. Try out instructional materials
    2. Evaluate
    3. Follow up
    4. Revise, if necessary

The analysis phase and the implementation phase provide the basis for validation of the instructional materials of the curricula. The degree of validity of the curricula depends upon the accuracy of the

CURRICULUM DEVELOPMENT

Figure 1

Curriculum Development Model[2]


Determine Feasibility
Diagnose Needs
Perform Task Analysis
Develop Curriculum Design
Formulate Objectives
Develop Preliminary System Design
Develop, Test, & Revise System Design
Implement System
Field Test
Implement Manage System
Evaluate System
Follow-up Studies
Summative Evaluation
Planning Phase
Implementation Phase
Evaluation Phase

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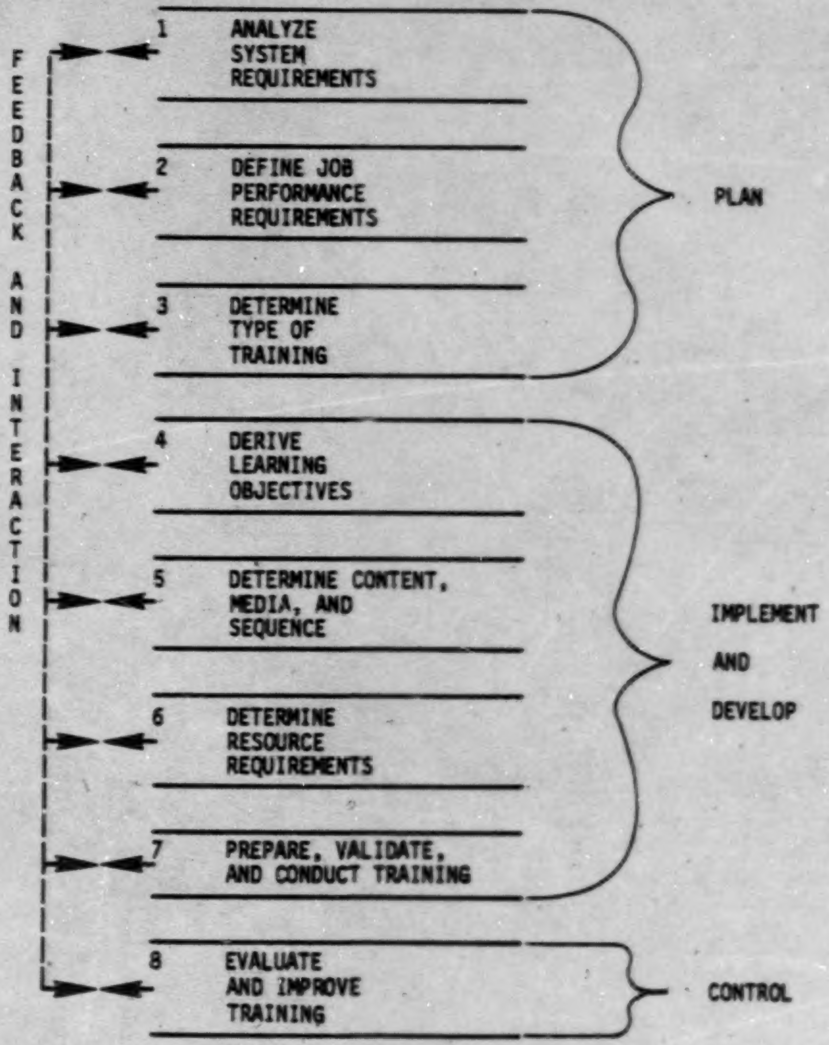
[2] Milton E. Larson and Ivan E. Valentine, Vocational Education Curriculum Development Handbook. (Fort Collins: Colorado State University, 1974), p. 1.

MODEL FOR INSTRUCTIONAL SYSTEM DEVELOPMENT[3]

Figure 2


FEEDBACK AND INTERACTION
1 ANALYZE SYSTEM REQUIREMENTS
2 DEFINE JOB PERFORMANCE REQUIREMENTS
3 DETERMINE TYPE OF TRAINING
PLAN
4 DERIVE LEARNING OBJECTIVES
5 DETERMINE CONTENT, MEDIA, AND SEQUENCE
6 DETERMINE RESOURCE REQUIREMENTS
7 PREPARE, VALIDATE, AND CONDUCT TRAINING
IMPLEMENT AND DEVELOP
8 EVALUATE AND IMPROVE TRAINING
CONTROL

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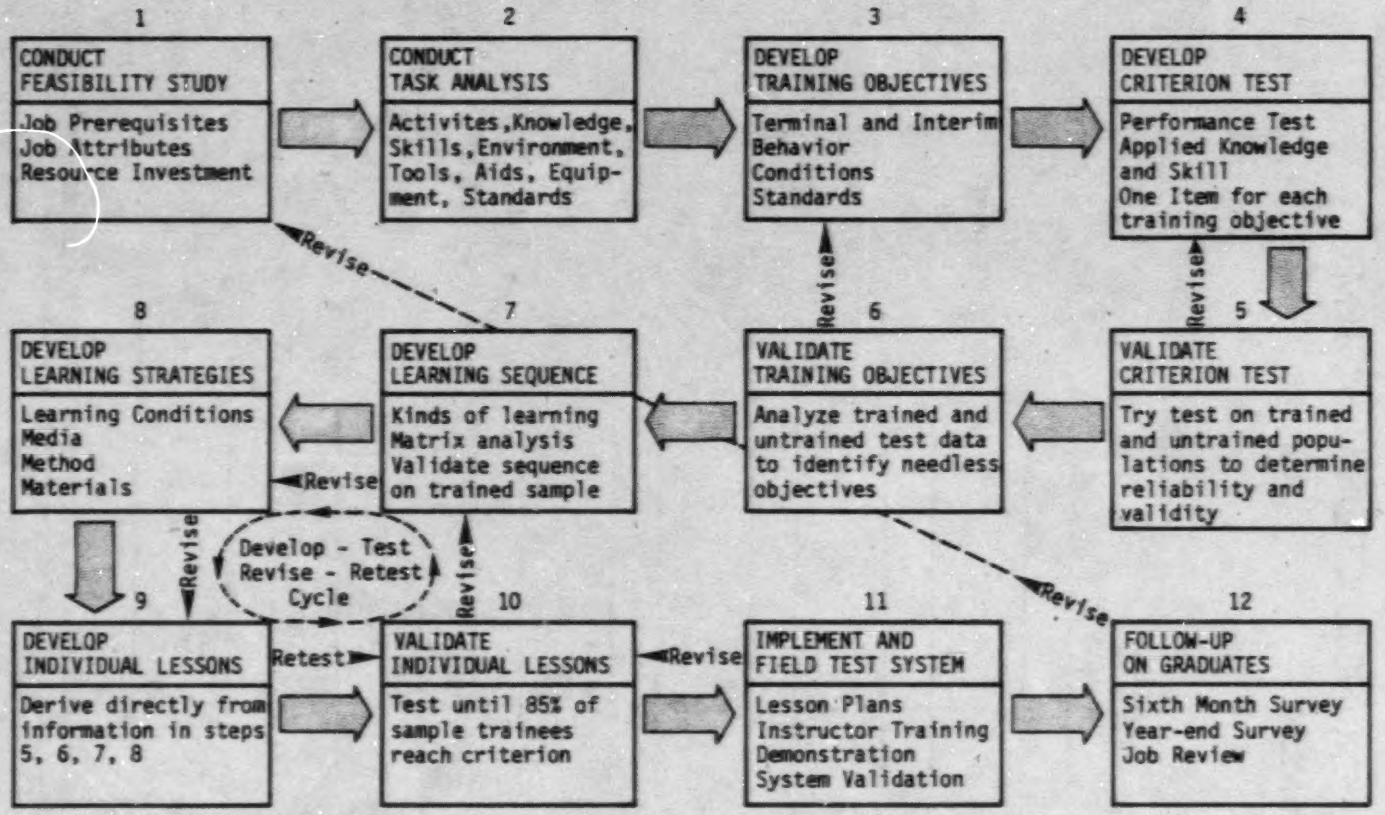
[3] Department of Missile and Space Training, Systems Approach to Course Development, Study Guide (Sheppard Air Force Base, Texas, June 1969), p. 3.

Figure 3


1
CONDUCT FEASIBILITY STUDY
Job Prerequisites
Job Attributes
Resource Investment
2
CONDUCT TASK ANALYSIS
Activites, Knowledge, Skills, Environment, Tools, Aids, Equipment, Standards
3
DEVELOP TRAINING OBJECTIVES
Terminal and Interim
Behavior
Conditions
Standards
4
DEVELOP CRITERION TEST
Performance Test
Applied Knowledge and Skill
One Item for each training objective
5
VALIDATE CRITERION TEST
Try test on trained and untrained populations to determine reliability and validity
6
VALIDATE TRAINING OBJECTIVES
Analyze trained and untrained test data to identify needless objectives
7
DEVELOP LEARNING SEQUENCE
Kinds of learning
Matrix analysis
Validate sequence on trained sample
8
DEVELOP LEARNING STRATEGIES
Learning Conditions
Media
Method
Materials
9
DEVELOP INDIVIDUAL LESSONS
Derive directly from information in steps 5, 6, 7, 8
10
VALIDATE INDIVIDUAL LESSONS
Test until 85% of sample trainees reach criterion
11
IMPLEMENT AND FIELD TEST SYSTEM
Lesson Plans
Instructor Training
Demonstration
System Validation
12
FOLLOW-UP ON GRADUATES
Sixth Month Survey
Year-end Survey
Job Review
Develop - Test
Revise - Retest
Cycle
Revise
Revise
Revise
Revise
Revise
Revise
Revise
Revise
Retest

FLOW CHART OF INSTRUCTIONAL SYSTEM DEVELOPMENT PROCESS[4]

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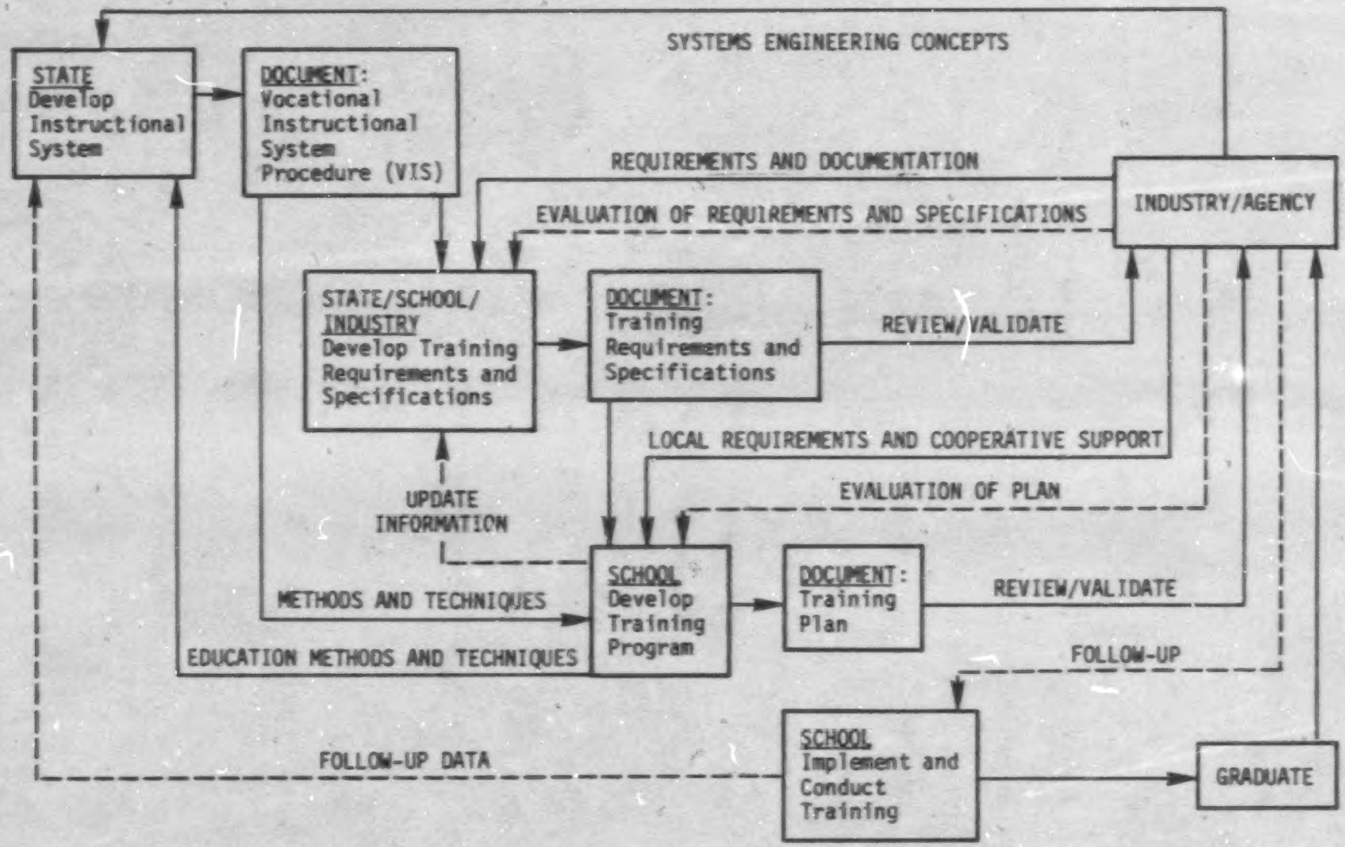
[4] Milton E. Larson, Teaching Related Subjects in Trade and Industrial and Technical Education. (Columbus: Charles E. Merrill Publishing Co., 1972), p. 115.

Figure 4


SYSTEMS ENGINEERING CONCEPTS
STATE Develop Instructional System
DOCUMENT: Vocational Instructional System Procedure (VIS)
REQUIREMENTS AND DOCUMENTATION
EVALUATION OF REQUIREMENTS AND SPECIFICATIONS
INDUSTRY/AGENCY
STATE/SCHOOL/ INDUSTRY Develop Training Requirements and Specifications
DOCUMENT: Training Requirements and Specifications
REVIEW/VALIDATE
LOCAL REQUIREMENTS AND COOPERATIVE SUPPORT
EVALUATION OF PLAN
UPDATE INFORMATION
METHODS AND TECHNIQUES
SCHOOL Develop Training Program
DOCUMENT: Training Plan
REVIEW/VALIDATE
EDUCATION METHODS AND TECHNIQUES
FOLLOW-UP
FOLLOW-UP DATA
SCHOOL Implement and Conduct Training
GRADUATE

VOCATIONAL INSTRUCTIONAL SYSTEM[5]

TRADE, INDUSTRIAL AND TECHNICAL EDUCATION
DIVISION OF VOCATIONAL EDUCATION
STATE OF WASHINGTON

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[5] Frank H. Wimer, Occupational Analysis As A Basis For Curriculum Development. (Olympia: State of Washington, 1969).

content determination data, the effectiveness of the developmental phase, and modifications based upon the feedback secured during the initial period of the implementation phase. The competency of individuals responsible for each of the phases, as well as the time and resources allocated for each of the phases, further influence the validity and reliability of the curricula and curricula materials.

If students are to have the opportunity of an improved relevant learning experience, which achieves the objectives of the program, a major breakthrough in curricula development is essential. No longer will curricula development be satisfactorily carried out as a part-time, after-hour activity without compensation or resources by individuals with little expertise. To provide the essential educational opportunity to give taxpayers a dollar's worth of education for a dollar invested, a much improved curricula development design must be provided. A curricula of the quality needed can be produced by the systems approach, if adequate support, both financially and professionally, is provided by the educational institutions and agencies involved in the vocational education process.

Roles of Institutions and Individuals

The role of each agency and institution needs to be developed through teamwork and cooperative planning. How that role will be developed and how the essential functions will be allocated will depend upon the perceptions that key individuals have of their roles. The perceptions will be influenced by the individuals' philosophies of vocational education, priorities given to curricula development, and abilities to diagnose the related components of accountability. The allocation of resources, both time and money, will be directly related to these existing or modified perceptions.

To introduce the dialogue of the role of institutions and individuals suggests a need for a review of the impact of curricula development. Dr. C. Thomas Olivo[6] pointed out that curriculum development is the cornerstone to programs. He said this is true because the curriculum:

- . . . affects the nature of the physical plant . . . the shops, the laboratories, and the related classrooms;
- . . . circumscribes the size, type, and specifications for equipment, instruments, materials, etc.;
- . . . identifies the qualities and other requirements of students/trainees seeking occupational training and education;
- . . . determines the qualifications of the professional teaching, supervisory, and administrative staff; and
- . . . influences every facet of administration, supervision, instruction, guidance, follow-up and the like.

It is obvious that a unified effort is necessary. It is also true that the success of the impact will be in direct proportion to the ability and capability of the agencies and individuals to accept identified roles and take steps to implement the functions cooperatively agreed upon.

The roles identified in Figure 5 are suggested as a beginning. Feel free to add to or modify the functional responsibility of each agency or individual.

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[6] C. Thomas Olivo, "Curriculum Planning: The Basis for Program Development," School Shop (April, 1964).

Figure 5

SUGGESTED INSTITUTIONAL AND INDIVIDUAL ROLES IN THE CURRICULA DEVELOPMENT PROCESS

Agency	Individual	Functions
State Board	(Director (Asst. Directors (Managers (Supervisors	Leadership--State efforts Resource allocation Priority identification Coordination Decision making Accountability monitoring Advisory services Other
University	(Department Head (Teacher Educators	Leadership--University curriculum efforts Coordination Personnel development for curriculum functions Advisory services Other
Curriculum Laboratory	(Director (Curriculum workers (Coordinators (Analysts (Writers (Media specialists (Production specialists	Leadership developmental efforts Task analysis Curriculum need determination Establishing individual advisory committees Curriculum design Coordination with all agencies and individuals involved Curriculum development using contract writers, editors, etc. Other
Local agencies (community college (area school (high school, etc.	(Director (Dean (Principal (Department head (Teachers	Leadership--Local agency Participation in content determination Participation in instruction mode identification Participation in media and material selection Service on advisory committees Service as "contract" curriculum developers Field testing of curriculum and curriculum materials Follow-up and feedback information Other
Employer of Students (Industry (Business (Agriculture	(Personnel (positions, levels as needed)	Task analysis input Service on advisory committees Feedback Other

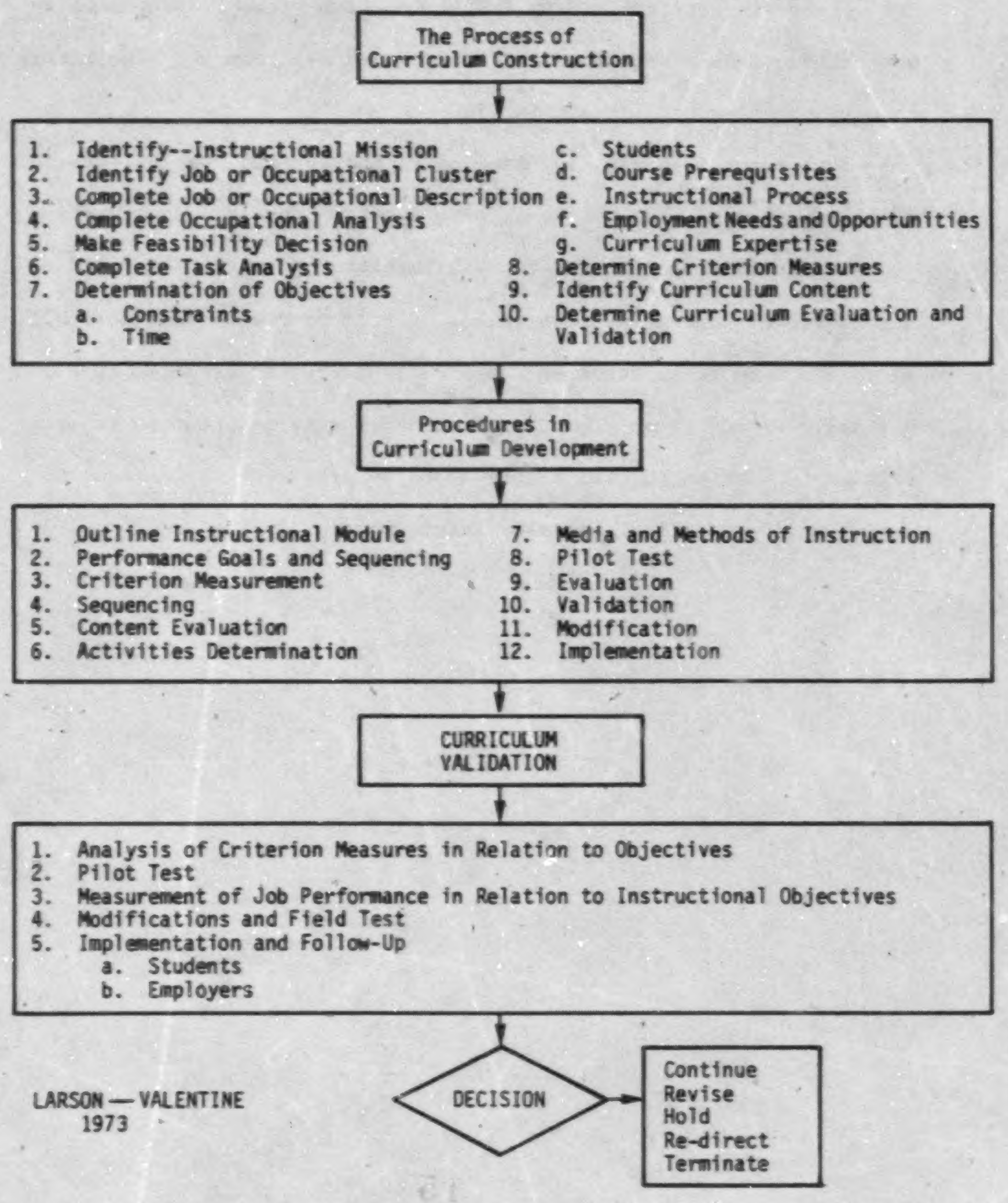
The Future

Industry has long since learned that research and development not only costs--it pays. Many industrial firms invest one-fourth to one-third of their resources in research and development. The future belongs to those who prepare for it.

The impact of a rapidly changing technology and the challenge of preparing students in vocational programs for jobs in a constantly changing world demand the best possible plans and curricula. The instructional content must be valid. Better curricula and curricula materials need to be developed, tested, and revised as necessary. Realistic resources and competent personnel must be provided if more relevant education for the future is to be provided. This requires a systems approach to curriculum development.

APPENDIX A

CURRICULUM DESIGN FOR EDUCATION BY OBJECTIVES



The Process of Curriculum Construction

1. Identify--Instructional Mission
2. Identify Job or Occupational Cluster
3. Complete Job or Occupational Description
4. Complete Occupational Analysis
5. Make Feasibility Decision
6. Complete Task Analysis
7. Determination of Objectives
   a. Constraints
   b. Time
   c. Students
   d. Course Prerequisites
   e. Instructional Process
   f. Employment Needs and Opportunities
   g. Curriculum Expertise
8. Determine Criterion Measures
9. Identify Curriculum Content
10. Determine Curriculum Evaluation and Validation

Procedures in Curriculum Development

1. Outline Instructional Module
2. Performance Goals and Sequencing
3. Criterion Measurement
4. Sequencing
5. Content Evaluation
6. Activities Determination
7. Media and Methods of Instruction
8. Pilot Test
9. Evaluation
10. Validation
11. Modification
12. Implementation

CURRICULUM VALIDATION

1. Analysis of Criterion Measures in Relation to Objectives
2. Pilot Test
3. Measurement of Job Performance in Relation to Instructional Objectives
4. Modifications and Field Test
5. Implementation and Follow-Up
   a. Students
   b. Employers

LARSON — VALENTINE
1973

APPENDIX B

COLORADO STATE UNIVERSITY
DEPARTMENT OF VOCATIONAL EDUCATION

CURRICULUM DEVELOPMENT

STEPS IN CONSTRUCTING PERFORMANCE-BASED CURRICULA

I. Gather information for content
   A. Primary sources--from users
   B. Secondary sources--from publications
      NOTE: What, how, why

II. Analyze information from sources
   A. List content items
   B. Formulate outline
   C. Construct zoned analysis

III. Synthesize information for curriculum
   A. Select teaching-learning content
   B. Block--arrange in groups considering order and time
   C. Construct zoned analysis
   D. Sequencing for learning experience

IV. Write curriculum
   A. Behavioral objectives
   B. Description
   C. List of courses or modules

V. Develop courses of study or modules
   A. Behavioral objectives
   B. Course description or modular
   C. List of units within module or course

VI. Plan units
   A. Performance goals
   B. Criterion measures
   C. Subject-matter content
   D. Activities
   E. Resources
   F. Evaluation

VII. Add additional information to course of study
   A. List of references
   B. Equipment and supply list
   C. Space layout
   D. Other

NOTE: 1. Repeat V, VI, and VII for each course or module to be developed referring back to III and IV.

2. Review essential characteristics for quality criteria for each part and develop appropriate criteria for each.

APPENDIX C

COLORADO STATE UNIVERSITY

ORGANIZING CURRICULUM MATERIALS
MODULE OUTLINE FORMAT

DEPARTMENT OF
VOCATIONAL EDUCATION

PERFORMANCE GOALS	CRITERION MEASURES	SUBJECT-MATTER CONTENT	PLANNED EXPERIENCES	SELECTED RESOURCES	EVALUATION

APPENDIX D

COLORADO STATE UNIVERSITY

VOCATIONAL EDUCATION DEPARTMENT

CURRICULUM DEVELOPMENT

SUGGESTED FORMAT FOR COURSE OF STUDY

I. Introduction

II. General considerations for the content

III. Objectives
    A. Broad behavioral objectives for the course of study
    B. Specific performance goals for each unit of the course

IV. Course description

V. Course outline
    A. Major divisions and subdivisions of each unit of instruction
    B. Shop or laboratory projects
    C. Instructional aids
    D. Texts and references
    E. Teaching methods and media
    F. Evaluation of performance

VI. Bibliography

VII. Other
    A. Suggested shop or laboratory layout
    B. Equipment list
        1. Specifications for ordering
        2. Cost estimate
    C. Supply list
        1. Specifications for ordering
        2. Cost estimate
    D. Unique features to consider in planning facilities for the equipment required for the course.

ROLES IN CURRICULUM MATERIALS DEVELOPMENT — A PERCEPTION*

Joe Nichols

Vocational education has been called an "old boys club" for so long, that I feel like an interloper in addressing this group. In fact, I hesitate to even suggest that things might be different than they are now. However, it is on that premise that I agreed to come over and speak. Outside of Ross, Lois, and Bill Akin, I expect that no one else here knows who I am.

I have managed to survive in this world by maintaining a low profile and a short stature. By nature, I have tried to be an "efficiency" kind of person. Others have alleged that I am a theorist in instruction. But since no one knows what that is, that allegation is not very significant. Since there is only one department of curriculum and instruction in the entire Rocky Mountain region, I spend most of my time explaining what we do when I visit other institutions in the region. The basis of our position in curriculum and instruction is to develop an intelligent and constructive criticism of the processes that go on in relation to curriculum development and instruction.

When one looks at the theoretical models that have emerged during the past fifteen years, it is easy to take the shorter perspective and believe that these models were always accepted and are, in fact, the most useful and valid ways of looking at curriculum and instruction. However, the field of vocational education far precedes currently accepted concepts of instruction and curriculum development. By the turn of the century public schools had an academic orientation and a well organized and established structure of the disciplines taught.

---

*A synopsis of remarks made during Dr. Nichols' Workshop presentation.

For example, if one reviews the foundation courses in a teacher education program, one finds that the material presented in these courses looks as if it were prepared by a committee of ten people. Definitive positions are avoided and the young teacher is inhibited from expressing unique viewpoints. One origin of this influx of colorless textbooks is the systematic development of publishing technology. One has to really wonder where these curricular programs came from. In fact, they just came. They came from other people, like you and I. About 90 percent of the curriculum materials used in schools were developed using the scissors and paste technique whereby you cut up other people's work, paste it in yours, and put it together into a book that the computerized presses can crank out.

With this academic orientation, vocational education was not completely welcome in the school community. The lesion caused by regarding vocational education as a second class citizen has yet to heal. Vocational education was brought into the curriculum by bribery. The Federal government appropriated funds that would support vocational programs, the need for which the academic community neither understood nor recognized. However, the need for money was recognized.

Generally speaking, curriculum, as a democratic process representing diverse inputs and drawing upon wide sources of information, did not develop until after World War I. Prior to 1920, there were few, if any, comprehensive theories of curriculum development. Since then there has been an increasing amount of support for effectively educating all the children of all the people.

We can give lip service to post-1920 curriculum development, but we must recognize that the road has been difficult because of our history of a narrow-minded concept of education. The formal theories of vocational education arose to counteract this concept. Critics of vocational education must remember that it was never considered an integral part of the school system and that vocational curriculum areas have perennially been in a defensive and adversary position.

I am not here to speak in an adversary manner. The subject of this presentation is curriculum. I plan to address vocational curriculum on its own terms and from a sympathetic position.

An earlier speaker defined curriculum two ways. One was as "experiences" and the other was as "substance." But curriculum has to be more than that. It has to be viewed in terms of role definitions. In Latin, curriculum means "the course to be run." And to me, that means the total course to be run. It is related to what the educational process is and to the legal foundations of the school's existence. Public schools are provided for in the state, not the Federal, constitution. Education is a state function. This was one of the powers delegated to the states in the constitution. In Colorado, the ultimate responsibility for curriculum definition lies with the local board of education. The law states that "the school board will be responsible for setting the curriculum, hiring the teachers, and managing the school." However, one has to look beyond the law to see how curriculum is actually developed in order to design an effective process of curriculum development.

Two fundamental questions arise concerning curriculum: what is it, and what do we have for it. One can deal with it in the abstract and develop models as our contemporaries are doing. These are concepts after the fact. The curriculum was established and now people are becoming involved with it. For the most part, they are pursuing their own vested interests. It is parallel to what we now refer to as the accountability movement. This movement arose in the late 1950's. It was aimed at establishing the scope of responsibilities of teachers and gave them permission to handle the sequence of learning experiences in the school district. The concept of accountability met with such popular response that administrators adopted it. Their objective was not to establish true accountability, but to maintain the industry and to demonstrate that the existing structure was justifiable and worthy of support. A serious analysis might indicate that the corporate model we have used in curriculum development is completely unnecessary. Most "regulatory agencies," supervisors, and resource people are unnecessary, expensive, and generally a hindrance to the learning process. It is on the basis of such an analysis that one finds that most models were built using components that already existed. I feel compelled to respond to that.

History puts the scene into perspective. When vocational and other teacher education emerged, the public schools were staffed by very poorly educated individuals. When I had just started in the teacher education business, completion of a two year standard normal program was the basic qualification to teach in the elementary schools of several states with which I was associated. In fact, when I was Director of Teacher Education in North Dakota State Normal and Industrial College, I was dean of a small college which went defunct. There was provision for legal certification of teachers with one year of college based upon twenty-seven quarter hours of experience. That was in 1952, and things did not change for about six years. Most of the legislation treated classroom teachers as if they were incompetent and required a great deal of inservice training and external input to prepare them to perform a function.

In the last twenty-five years, that situation has not prevailed. Teachers are exceedingly well educated. In fact, they are well above the demands of using the information they process. However, because they are so inadequately prepared to cope with the situation, external structures have continued to exist. When one thinks in terms of the development of curriculum, it is curriculum for a school and the components are analogues to courses of study or delivery systems for particular disciplines.

When developing curriculum, one must consider the totality of the community. Almost everyone in your field is acquainted with a needs assessment and also with establishing objectives. The determination and prioritization of objectives must be philosophic--not in terms of a preferred frame of reference to protect an industry, but in response to all people in the community. Involvement with the community is becoming more pronounced each year and leaders have expressed the desire for the curriculum to emphasize a salable skill. The question that must be answered is, "Do you have the facilities and the ability to deliver a salable skill?"

A very significant process is the selection of content which will produce a salable skill. This requires input from researchers who validate the various learning experiences to be accurate and worth teaching. The content must be translated into the delivery process called teaching. This translation involves the selection of the actual learning experiences and is not necessarily related to the learning materials.

The development and selection of learning materials are controlled by the learning capacities of pupils. It is in this phase that we have ventured into the area of scientific curricula development. It is in this area that there have been tremendous weaknesses. Unfortunately, most of the information which we have taught over the past thirty-eight years is not related to the learning capacities of children, and certainly not to the learning capacities of adolescents.

Consider the recent overflow of reports about the incorrect functioning of testing programs across the nation. Statements have been made that the Scholastic Aptitude Test mean has dropped continuously since 1963. Questions have been raised about what the information from these tests means, whether having it is of any benefit, and whether a reappraisal of our testing programs is in order. Perhaps some critics indicate that administering the Scholastic Aptitude Test (SAT) is a nonsensical exercise which should be eliminated. However, elimination rids the decision makers of the need to answer the aforementioned questions concerning the value of the test throughout history.

Almost every systems approach to learning has some inherent faith that it can be measured and that the instrument is appropriate to the learning capacity of the child involved. In most instances we have taken a corporate industrial model in terms of high probability of function. That particular quality control works exceedingly well for selecting transistors and spark plugs. I am not sure that it works well at all with human beings in terms of the factors we know to be crucial--commitment, emotional determination, and other more peripheral things.

The selection of curriculum cannot be universal and nationwide. The diversity of our culture and our needs dictates that the selection must be diverse. The abilities and interests of the children must be considered in order to provide meaningful and consequential learning experiences.

There is, unfortunately, conflict over who has the responsibility of making curricula content selections. Classroom teachers seem to be emerging as the decision makers--not because of their infinite wisdom, but because of their political power. They are sometimes classified as militant because of statements like: "we want more money," "we want control over our working conditions," and "we want to exercise our expertise in selecting experiences that our children should have--experiences at the correct level." It is assumed that this type of control promotes a high degree of accountability. If this assumption is correct, and there is a free exchange of ideas in which people have the opportunity to make decision, then almost all of the superstructure which exists to inhibit the freedom of choice of classroom teachers may be deemed unnecessary and be eliminated. The traditional impact of fiscal control will probably vanish.

School administrators have historically taken a position against categorical aid. Over the last four years, I have discerned a movement by superintendents back to a position of interest in categorical aid. Possibly, top administrators are making a conservative retreat to protect their own security. They find themselves in positions in which they must choose sides and make decisions.

The ability to produce valuable curriculum content lies with scientifically oriented, determined people in the vocational fields. The content will have to meet certain criteria which is understandable and reproduceable. At the moment, because of the great demand for materials in schools, almost anyone with paper and a typewriter can produce curriculum materials. These will eventually be selected, evaluated, and marketed.

The need for the kind of supervision which was demanded from 1920-1930 is now unnecessary. It has no function. The specificity with which we are still educating and demanding through licensing procedures is under severe scrutiny. This has become apparent among the public in things such as distinguishing between barbers and hairdressers, licensing various things in an effort to control the society, and imposing taxes which are not aimed at raising money, but at controlling behavior. These are the changing kinds of things for which the school and all of its components will be responsible.

PERCEIVED ROLES IN CURRICULUM MATERIALS DEVELOPMENT

Harold Wallace

One way to identify and define roles in curriculum development is to ask teachers, administrators, teacher educators, and others what they see as the tasks to be performed, and who should have responsibility for each task. However, our behavior does not always conform to our beliefs. Therefore, analysis of our behavior might be a more valid way of deriving curriculum development role definitions. For example, let us consider several possible behaviors which might indicate what the roles actually are. Suppose you see a group of teachers around a large table, cutting and pasting to produce a "new" curriculum from the bits and pieces of material they find in their files. Or, suppose you see statewide use of curriculum guides or lesson plans which were produced by the state department of vocational education. Or, consider the implications of a situation in which a committee of librarians and administrators reviews and selects textbooks which are to be used in a vocational program. In each of these examples, the assumption is different with respect to who should do what in curriculum development.

In this presentation I have been asked to offer my own perception of roles in curriculum materials development, and to defend that perception. I would like to do this in the context of what you have been doing during this week, examining several different models for curriculum development.

The models show what the roles are and what the functions are; but before a model emerges, you have to start out with a philosophical framework or base. Now you remember the first presentation by Dr. Woolf where in essence, he was saying, "There is something seriously wrong with what we are doing." Well, if there is something wrong with what we're doing, maybe there is something wrong with our models and if there is something wrong with our models, maybe there is something wrong with our philosophy.

As I mentioned earlier, our behavior indicates something about our role definitions. It also indicates what our philosophy is. I submit that the prevalent emphasis on "behavioral" objectives, pre-packaged and tightly programed self-instruction "modules" and all the paraphernalia of "instructional technology" tells us that we actually believe that curriculum development and instruction are basically a science--a systematic procedure with predictable results. Now, I suppose that if we were to discuss the question of whether the design and management of instruction is an art or a science, we would conclude that it is some of both. We would probably agree that there is a certain amount of creativity, craftsmanship and artistry involved. On the other hand, we would likely agree that a certain amount of technology is essential. But in practice, if the models and systems we are advocating and using tell us anything, we assume that curriculum development and instruction is basically a technology, that people can be programmed pretty much as you can program an operator in a factory with very predictable results. I will try to show that this is probably our most serious mistake.

You will recall that Dr. Woolf said, "The really successful curriculum efforts in this country have been initiated outside of vocational education in such fields as the new math, and biology." Several years ago, Dr. Max Beberman was invited to the American Vocational Association convention to tell us the secret of his success. Here was a man who had directed several large curriculum projects relating to the "new math" which at that time was just emerging. Here on tape is his philosophy and his suggestion for who should develop curricula and how it should be done.

> *What I'm going to do is to give you my view of how curriculum development should be carried out in mathematics and how in my own case, it was carried out. And as I proceed, I will call your attention to principles which may be applicable to curriculum development work in your own field. First of all, there must be an identification of a very general goal. It should be a long-range goal, as long-range as possible to give you plenty of flexibility. In the case of college preparatory mathematics, the long-range goal was that of preparing the student to study analytic geometry and calculus when the student entered college. That was our long-range goal. You may argue that was not adequate, nonetheless, that's what it was and this goal was well known to all mathematics educators, to all high school mathematics teachers.*
>
> *Curriculum development is, at this stage in the history of education, a craft and not a science. Curriculum development is something that artisans have to carry out. As far as I'm concerned, there is no acceptable theory of curriculum development. It's an art, it takes a great deal of craftsmanship. Therefore, you need to have continual feedback from the students to use as a basis for making adjustments both in content and in method. Secondly, interaction with students involving new subject matter will often demonstrate that you have grossly underestimated their ability. More and better ideas are generated in*

> *the classroom than around the conference table in the curriculum development seminar. That is, the artist-teacher who is working with children (students) on new subject matter and how it should be taught while in the process of teaching. There is a third reason and this has more to do with implementation than anything else. While the person who is doing the curriculum development work is working with the students, the person becomes aware of a whole range of problems that teachers will encounter when they try to teach this curriculum. Now, the person accepts, because he is an artist, that he'll be able to solve these problems very quickly. But ordinary people may not be able to solve them quickly. And therefore, the time comes for implementation, for training teachers for this new curriculum. This person has to be able to bring up all the problems that will arise in the course of teaching the new subject matter; and, has to be able to propose solutions for them. Therefore, even though the person is a good teacher and doesn't seem to have any problems in teaching the new subject matter, if at all sensitive the person will recognize the kinds of problems that some less gifted colleagues will encounter. Now, this business about changing things quickly according to the demands of students is the major reason why I recommend against, repeat against, the laying out of detailed objectives as the initial step in curriculum development.*

I think these remarks by Dr. Beberman highlight one of the ways we are going wrong with curriculum development. How? By beginning the process by laying out extremely detailed objectives. He further states:

> *I am fully aware that all the education textbooks advise you that objectives come first. I am also unaware of anything good and innovative that has come about by following this advice. There is a time when the stating of objectives is appropriate and necessary. It comes near the end of the curriculum development process, when you wish to take a look at what you have done. As a result of this inventory, you may discover that something useful or interesting has been omitted. Okay. It's usually a simple matter to make a provision for it at that time.*

If we accept Dr. Beberman's approach, our model or system would be as follows: first identify a broad goal. It must be a valid goal.

Then you must communicate it so everyone understands it. Next, select the best teachers and have them use their creativity and imagination to produce good ideas for learning activities. Finally, when you need to evaluate and find out if the students have achieved the broad goal, you will have to break it down into more specific "behavioral" objectives. I think the best way to develop good performance-based test items is to use Robert Mager's little book on how to write objectives. But don't call them objectives; call them evaluation criteria and standards because that is what they are.

Now I would like to present the findings of a survey of our vocational teacher education faculty. They were asked to give their perceptions of who should perform the various functions or tasks found in the typical curriculum development models or systems you have received this week. Our faculty says, and I pretty much agree with them, that the local administrator and state staff should be responsible for all these tasks, with the exception of looking at student interests and needs, and perhaps, the teacher should be involved in that. Teachers should not be doing cost benefit analysis, labor market analysis and etc. The people who decide whether programs should be offered and continued should do that. However, perhaps teachers should be involved in identifying learning objectives, determining what students should learn so that they will be able to cope with the demands of employment. This includes analysis of the target occupations and analysis of student potential for success in future employment and as participants in the instructional programs. The teacher should interpret this information to produce the broad instructional objectives. According to this survey, our faculty believes that the analysis of target occupations should be a joint effort between the teacher and the local administrator. They also believe the analysis of student potential should be a shared responsibility, and that teachers and administrators should share in determining broad instructional objectives. However, perhaps we should have highly trained professionals tell us what our students ought to learn. This would insure objectivity and validity in the identification of what the products or outcomes of teaching and learning should be. Then we should give those broad objectives to creative, imaginative, well trained teachers and hold them accountable for their students' achievements of the specified objectives. By this I do not mean teachers should be assigned goals for specific day-by-day lesson plans. We would assume they derive them from the broad goals. When it comes to the design of instruction, given a set of presumably valid instructional objectives, the teachers would use their artistry and creativity to select and develop the potentially effective and efficient learning activities that these students might engage in.

So, to conclude, when it comes to designing the specific instructional materials and preparation of lesson plans, that is the teacher's role according to our faculty. If that is the case, why do we have these big national curriculum development projects and statewide curriculum development projects that produce day-by-day lesson plans? I don't mean to say that we shouldn't have curriculum development projects on a national scale, but what they should produce, I think, is resource material that good teachers can use as a smorgasbord.

To sum it up, we can improve our whole system by simply employing the philosophy that the teacher is a craftsman, an artist, and a technician. I think we can do this by first making sure we select and properly train teachers so that the situation that Dr. Nichols described will never occur--that is a teacher who is well educated gets out there for that first year of teaching not knowing what to do. Prepare excellent teachers and treat them as professionals. Give them the time and resources to do curriculum development, and turn them loose. Hold them accountable for effective performance as teachers and curriculum developers. Do not insist that they follow specific procedures and use specific materials. Insist that their students demonstrate through performance that pre-specified instructional goals have been achieved.

NATIONAL OVERVIEW--

CURRICULUM MATERIALS DEVELOPMENT*

William Berndt

I do appreciate the opportunity to come to Colorado State University and meet with this workshop group, particularly since you are talking about curriculum, a field which must receive more emphasis in future years. I would like to commend the State Board, Colorado State University and Dr. Wiley Lewis for assembling this group and to thank Dr. Lewis for inviting me, as a representative of the United States Office of Education, to acquaint you with what is being done on the national level.

Curriculum is the foundation of vocational education and, as such, does not receive the attention it should. National figures indicate that between Fiscal Year 1973 and Fiscal 1974, there was a 13.2 percent increase in Federal, state, and local spending on vocational education. This healthy dollar growth has had an impact on curriculum and on your program. The states matched every Federal dollar expended with $6.33, as required by the bill. You can see that the state and local dollars, and not the Federal dollars, are carrying the ball.

Under Part B funds which go to the states, 24.3 percent was allocated to post-secondary programs, 17.7 percent to the disadvantaged, and 11.3 percent to the handicapped. Over thirteen and one half million persons were enrolled in these programs, an increase of 12.3 percent or one and a half million people from Fiscal Year 1973 to Fiscal Year 1974.

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*A synopsis of remarks made during Mr. Berndt's Workshop presentation.

Secondary enrollments increased by 14.7 percent. Post-secondary enrollments experienced the largest increase, as has been the case over the last ten years, of 16.5 percent. Adult enrollments increased 5.4 percent. Federal funds for teacher training under the Vocational Education Act were used to serve our 266,000 teachers in total; more than 109,000 received inservice training; more than 61,000 received preservice training. State and local figures tend to follow these proportionately.

I would like to present an overview of the organization of the Office of Education. There are three discretionary programs in the Act which are centralized in my division, the Division of Research and Demonstration: Part I, the curriculum development program; Part D, the exemplary program; Part C, vocational education research. The funds for these programs are referred to as the Office of Education Commissioner's Discretionary Funds. Each of the three programs is a branch in the Division. The new Part J bilingual portion has been added to the exemplary branch. The Vocational Education Act of 1963 provides specifically for the support of curriculum development, the first time under the Act that Federal dollars were designated for this purpose.

The monies that are appropriated under the Act are for the following six sub-purposes of the Act:

1. Promote the development and dissemination of vocational education curriculum materials;
2. Develop standards for curriculum development;

3. Coordinate efforts of the states in the preparation of curriculum materials and prepare current lists of curriculum materials available in all occupational fields;

4. Survey curriculum materials produced by other government agencies that would relate to vocational education;

5. Evaluate the vocational education curriculum materials and their uses; and

6. Train personnel in curriculum development.

Note that the emphasis is on several different activities, not just curriculum development.

One thing you should be aware of is that under legislative acts, the appropriations and the authorizations defined in the Act never match. If we had all the dollars that were authorized for curriculum development, we would probably be ten years ahead of where we are right now.

For Part I, our monies were cut to one million dollars in Fiscal Year 1975. That money doesn't go very far when you consider developing, field testing, and disseminating curricula from numerous projects.

What got us into that one million dollar bind? When the career education concept was promoted out of the Office of Education, we were the only group that had monies available--our vocational education money. When the career education concept became involved with vocational education, we were forced to spend some of our monies on career education. This spending did succeed in getting career education off the ground, and so, on the one hand, you might view it as a plus.

On the other hand, what did this spending deprive us of in our own field of vocational education? The National Institute of Education was formed under another act, and that became a sister agency to the Office of Education. One of their thrusts is career education. In addition, the Office of Career Education was formed, given ten million dollars, and attached to our Bureau. Within the last year, it was pulled out and placed directly under the Commissioner of Education. The National Institute of Education was granted another ten million dollars this year, and all of the research that was in the Office of Education basically went over to the National Institute of Education. The National Institute of Education does career education. The Office of Career Education, which exists within the Office of Education, is doing career education. Both have money now. After examining the situation, Congress said that we no longer had to do career education, and reduced our budget to one million dollars this year. In order to get those dollars restored to our curriculum development budget for vocational education, we need the support of your people in this State and every other state.

Each year we have obligated virtually every cent that was appropriated for curriculum development--just over nineteen million dollars over the last six years.

Who is eligible for the monies under Part I of the Act? Any profit making and non-profit making organization is eligible. Only individuals are not eligible and we do not accept proposals from the outside. We try to get as much input as possible in determining national priorities. We set the priorities and pursue projects on that basis. The monies do not go to the state under this part of the Act.

As you know, the legislation supposedly expired last year and was extended for one more year. New legislation is being considered by Congress and there are at least six different bills being considered which will have impact, or a combination bill will comprise all of the new legislation, hopefully, by spring. One of the bills will provide monies to the states. But unless the appropriated shares are significant, they will not make any impact at all.

The problem is what to do with a few dollars. We have funded a number of projects and many of them are still active. In the back of the room are two project listings. One is entitled, An On-going Listing of Curriculum Projects. Those were funded in previous years. The projects we funded the last fiscal year are on the second listing.

The heaviest concentration of individual curriculum projects has involved the purpose of development and dissemination. Also, many of the projects involved the occupational clusters which were generated out of the Office of Education. The fifteen different clusters were established by the Office of Education early in 1971, so we have funded projects in that area.

Another major effort we have supported was the establishment of curriculum centers around the country. Each state is now affiliated with one of six different curriculum centers across the nation, which make up a national network of curriculum coordination and provide curriculum liaison services to all of the states.

I would like to refer back to the cluster concept for a moment. We have developed something in each of the fifteen clusters. Some of those materials are available for review at this meeting. The clustering system is based on the career education concept—career awareness, orientation, exploration and preparation. The preparation phases are what we are mainly concerned with in vocational education, but we have done different combinations of the four phases and there is a total of thirty-three projects funded in this area. Although questions have arisen concerning continuation of the cluster concept, a recent policy decision was made in favor of continuation. Several cluster titles were slightly altered in the process.

The following chart summarizes the number of projects funded under the six sub-purposes of the Act.

Sub-purpose	Number of Projects Funded
1. Curriculum Development and Dissemination	78
2. Development of Standards for Curriculum Development	2
3. Coordinating Efforts of the States	14
4. Survey Curriculum Materials Available From Other Agencies	1
5. Materials Evaluation and Their Uses	3
6. Training of Personnel in Curriculum Development	10

Additionally, about two years ago, we funded two projects to develop a curriculum for training curriculum people. The approaches developed in these projects should be utilized by teacher education institutions as a base for their curriculum development. These approaches should be available in another year or so.

I would like to give you the highlights of three major projects which we are currently funding. One project is to design a system for identifying, evaluating, and disseminating curriculum materials available from the Department of Defense.

Another major project was to develop a process for identifying new and emerging occupations so that we are not always offering vocational courses which are outdated.

The third major project was to bring together the directors of all of our funded projects who were field testing the curriculum materials. We trained these directors to formulate an effective pilot and field testing program.

Some of the more unusual projects we have funded are a biomedical equipment technology curriculum, and several in the area of business ownership and business management. We have done some career education for Indian youth and for Spanish-speaking migrant people. We had a program on laser and electro-optical technology, another on management training for operators of small businesses with emphasis on minorities, and several on metrication.

We are currently working on our Fiscal Year 1976 priorities. The only one I can reveal to you is that we are refunding the six curriculum coordination centers. That announcement was made in the Federal register. Colorado, along with ten other states, is involved with the Northwest Curriculum Coordination Center, funded through the Washington State Department of Education. Ten states are tied in with this Center.

APPENDICES

APPENDIX A

AGENDA

CURRICULUM MATERIALS DEVELOPMENT

WORKSHOP

Lory Student Center
Colorado State University
Fort Collins, Colorado

November 17-21, 1975

Arranged by:

Department of Vocational Education
Colorado State University
Fort Collins, Colorado

In cooperation with:

Colorado State Board
for
Community Colleges and
Occupational Education
Denver, Colorado

Region VIII
Office of Education
Department of Health,
Education and Welfare
Denver, Colorado

CURRICULUM MATERIALS DEVELOPMENT WORKSHOP

Dr. Wiley B. Lewis, Coordinator

Room 226

Program

Monday, November 17, 1975

10:00 a.m.- 1:00 p.m.	Registration	
12:00 p.m.	Lunch	
1:00 p.m.	Welcome to Workshop	Dr. William H. Johnson, Dean College of Professional Studies Colorado State University
1:15 p.m.	Departmental Commitment	Dr. B. Harold Anderson, Head Department of Vocational Education Colorado State University
1:30 p.m.	State Board's Perception of Workshop	Dr. William D. Woolf, Director Occupational Education Division State Board for Community Colleges and Occupational Education
2:00 p.m.	Presentation: "Systems Approaches to Curriculum Development in Vocational Education"	Dr. James E. Wall Assistant Dean for Research and Development College of Education Mississippi State University
3:45 p.m.	Mini-sessions	Rooms as Assigned
5:00 p.m.	Dinner	

Tuesday, November, 18, 1975

7:00 a.m.- 8:00 a.m.	Breakfast	
8:00 a.m.	Presentation: "Instructional Materials Laboratory"	Mr. Amon Herd, Director Instructional Materials Lab University of Missouri
9:30 a.m.	Presentation: "Implementation of Curriculum Materials Development in a State Vocational Education Program"	Mr. Arch Alexander Deputy Director Oklahoma State Department of Vocational Technical Education
11:00 a.m.	Mini-sessions	
12:00 p.m.	Lunch	
1:00 p.m.	Presentation: "Mid-America Vocational Curriculum Consortium"	Ms. Ann Benson, Executive Mid-America Vocational Curriculum Consortium Oklahoma State University
2:30 p.m.	Presentation: "North Dakota Curriculum Development Plan for Vocational Programs"	Dr. Don Eshelby RCU Director North Dakota State Board for Vocational and Technical Education
4:00 p.m.	Mini-sessions	
5:00 p.m.	Dinner	

Wednesday, November 19, 1975

7:00 a.m.- 8:00 a.m.	Breakfast	
8:00 a.m.	Presentation: "Colorado Efforts For Vocational Education Curriculum Materials Development"	Dr. Wiley B. Lewis, Director Curriculum Materials Development Colorado State University
9:30 a.m.	Presentation: "Instructional System Design--A Workshop Sampler"	Dr. Darrell Parks, Assistant Director Vocational Education Professional Staff and Curriculum Development State of Ohio Mr. Tom Hindes Instructional Materials Laboratory Trade and Industrial Education Ohio State University
12:00 p.m.	Lunch	
1:00 p.m.	"Instructional System Design" (continued)	
3:30 p.m.	Mini-sessions	
5:00 p.m.	Dinner	
6:30 p.m.	Discussion of Project Assignment for Those Registering for Credit	Dr. Wiley B. Lewis, Director Curriculum Materials Development Colorado State University

Thursday, November 20, 1975

7:00 a.m.- 8:00 a.m.	Breakfast	
8:00 a.m.	Presentation: "Implications of Copyright Laws for Education"	Mr. Edwin L. Spangler, Jr. Attorney-at-Law
9:30 a.m.	Panel: "Roles in Curriculum Materials Development--A Perception"	Dr. Milton Larson, Professor Technical Education Colorado State University Dr. Joe Nichols, Professor Curriculum and Instruction University of Northern Colorado Dr. Harold Wallace Coordinator of Research Colorado State University
11:00 a.m.	Mini-sessions	
12:00 p.m.	Lunch	
1:00 p.m.	Mini-sessions	
3:00 p.m.	Media Display	
5:00 p.m.	Adjournment	
6:30 p.m.	Banquet, Room 106 Presentation: "Vocational Curriculum"	Senator Hank Brown Assistant Majority Leader Colorado State Legislature

Friday, November 21, 1975

7:00 a.m.- 8:00 a.m.	Breakfast	
8:00 a.m.	Presentation: "National Overview--Curriculum Material Development"	Mr. William Berndt Curriculum Specialist Vocational and Technical Education U.S. Office of Education
9:30 a.m.	Workshop Overview	
11:30 a.m.	Workshop Conclusion	
12:00 p.m.	Lunch	

APPENDIX B

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